The Chemical Age

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NOTICES:—All communications relating to editorial matter should be addressed to the Editor, who will be pleased to consider articles or contributions dealing with modern chemical developments or suggestions bearing upon the advancement of the chemical industry in this country. Communications relating to advertisements or general matters should be addressed to the Manager.

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A Great Chemical Congress

As the details published in this issue show, the great Congress of Chemists in association with the annual meeting of the Society of Chemical Industry, which is to be held in London throughout next week, promises an unusual range of interest to the chemist, chemical engineer, and metallurgist in the first degree, as well as to many others more remotely associated with these industries. In addition to the arranged discussions and meetings of societies, several individual addresses of outstanding interest are promised, and the serious work is pleasantly interspersed with social functions. So many societies have never before co-operated in conjunction with the annual meeting, and by the time the Society comes to celebrate its jubilee, some five years hence, appropriately returning to London for the occasion, the process of consolidation may have proceeded so far as to secure a yet more united gathering.

As Mr. Woolcock pointed out in his address at a preliminary reception on Tuesday, the Congress, in addition to providing opportunities for discussion and social intercourse among chemists, will offer a unique opportunity for bringing home to the outside world the basic importance of scientific research to industry and to national life. The present generation is too apt to take for granted the wonderful inventions and discoveries which science has brought in its train and so revolutionised the conditions of life; it does not realise the enormous amount of painstaking research which has made these inventions possible; and it does not appreciate that unless we go forward in this matter our industries will inevitably decay and die. Above all things, we must look to science to teach us how to conserve the raw materials that are at the basis of our civilisation, such as coal, wood, petroleum, and ores, and how to find substitutes for them when supplies give out. The estimated life of our petroleum fields is less than twenty years! Perhaps power alcohol may in part replace oil. This is one of the subjects to be discussed at the Congress. The annual loss due to the corrosion of iron is of the order of £27,000,000. Science has already produced stainless steel and stainless iron, and will doubtless make further important contributions to the solution of this problem. The corrosion of metals will also be discussed at the Congress.

Conservation of health is another problem of urgent national importance to which chemistry has devoted itself with conspicuous success. Hormones—to be considered at the Congress—are chemical substances which certain glands send out into the blood stream to regulate our physiological processes and even our intellectual and emotional reactions. Of these, adrenalin, thyroxin, and insulin have been prepared by the chemist in a pure state, and have proved of invaluable service in the treatment of disease and arrested development. The germ theory of Pasteur, which resulted in aseptic surgery and the preparation of serums that have saved millions of lives through the practical eradication of diphtheria, typhoid fever, yellow fever and other fatal diseases, was the direct outcome of Pasteur's studies of tartaric acid crystals. The discoveries arising out of the use of the microscope in medicine would not have been possible but for the chain of chemical discoveries which yielded the aniline dyes required to stain bacteria, and thus make them distinguishable from the media containing them.

The great industry of paper manufacture from wood pulp originated in Réaumur's studies of wasps, which make their papery nests of materials produced by masticating pieces of wood and other vegetable substances. Viscose, the kind of artificial silk most used to-day, was discovered in the chemical laboratory by Mr. C. F. Cross, a medallist of the Society of Chemical Industry, who is still pursuing his investigations in Lincoln's Inn. Fixation of atmospheric nitrogen is one of the world's new industries that supplies us with fertilisers in peace time and high explosives in time of war. This highly important industry had its origin in

Cavendish's observation that electric sparks in air produce compounds of nitrogen and oxygen. The investigations of Berzelius and Welsbach on the rare elements thorium and cerium, resulted in the Welsbach incandescent gas mantle and the industry it created. These are only a few of many examples showing the dependence of life and industry upon scientific research, and it is well that the nation should be made to understand their meaning in the national interest.

A special feature in connection with the Congress this year will be the first London exhibition of British chemical plant and plant constructional materials. British engineering skill has long held a world-wide reputation for the excellence of its products, but when it is desired to exercise this skill on the production of plant for chemical manufacture new problems arise; much of the plant may be subjected to the action of corrosive fluids, and it is necessary therefore to use materials that will resist corrosion and yet retain the properties required for good engineering practice. The skill of British chemistry and metallurgy has been brought to bear on these problems, and metals and alloys are now available, at economic prices, which are almost completely resistant to corrosion by various media. Eight different firms are showing such materials. Other means of combating corrosion are, however, now well known in chemical industry, and adequate space is being devoted to acid-resisting enamelled plant, to silica plant, and to pitch-lined concrete.

The organisers have not failed to pay attention to various engineering devices (such as economisers, heat accumulators and so forth) for securing economies in steam and power. These are of particular importance in the chemical industry, where such a large proportion of manufacturing costs is attributable to these factors. Emphasis, too, is laid upon exhibits of small scale plant in which the intermediate stage between the research laboratory and large scale works operations can be studied. The research chemist with his test tubes and beakers may work out a process, but the vital question whether the product is economically worth while depends upon whether the final plant, costing many thousands of pounds, can be adapted to the economic utilisation of raw materials and intermediate products, and to the economic transmission and conservation of power. Such problems can rarely be visualised in test-tubes and beakers, and it is fairly common practice to study them on a comparatively small works scale before entering upon large capital commitments for plant construction. Such are some of the exhibits which may be studied with profit by chemists and chemical engineers during the week, and indeed by many others who, though not engaged in the actual manufacture of chemicals, are concerned in processes utilising chemical materials.

Business Men in Politics

THE attack upon Mr. Neville Chamberlain for his own family connection with Hoskins and Sons raises a subject of far wider importance than the honour of the particular Minister or the affairs of a particular firm. The purity of public life admittedly depends upon the separation of business and political interests, and the high standard of English public life as compared with that of other countries is in no small measure due to the self-sacrifice of our public men who, upon assuming office, have always divested themselves of active business connections. Mr. Chamberlain has shown that he has kept well within the best tradition in this matter, but it may be necessary to revise our views about it. If directors of industrial companies are to be parted from participation in matters of Government, what can be said about officers of Labour organisations who have, in many cases, as much or more responsibility for the prosperity of industry and are at present perfectly free to use the machinery of Government for their own industrial ends? That point, however, does not exhaust the matter. The traditional limitations have the effect of restricting the choice of Ministers. They make it easy for aristocrats, lawyers and professional men to take leading positions in politics, and make it impossible for persons with heavy business responsibilities to touch politics at all. That was all very well when politics had nothing to do with business, but now that the House of Commons is occupied with little else but business, the whole question requires to be studied afresh.

A German View of the I.G.

IN the many accounts that have recently appeared in the British Press of the activities of the I.G. Farbenindustrie A.-G., no reference has been made to one very important point—that is, the attitude of German chemical industry in general towards the trust. Enormous as the I.G. already is, and manifold as are its products, there are still outside it a large number of German chemical concerns. There seems to be some evidence that, as is natural, these regard their gigantic competitor with some apprehension. Moreover, it appears from comments in the German Press that there, as here, the I.G. is something of an enigma, and speculation is rife as to the real and final aims of the creators of the trust.

In this connection an interesting analysis of the situation, as seen through German eyes, appears in the *Chemiker-Zeitung*, in an article entitled "German Chemical Industry at the Cross-roads," by Dr. W. A. Dyes. The writer first points out the dangers that may threaten a nation served by trusts, such as the throttling of competition by deliberate underselling with a view to forcing up prices when a monopoly has been obtained. At the same time, an efficient trust, honestly operated, may reduce costs and prices very materially. Mention is made of the British Government report on the British soap trust, in which it was indicated that, in spite of the possession of a virtual monopoly, the trust supplied soap at a reasonably cheap rate. Borax Consolidated is further quoted as an example of a trust, making large profits, which owes its prosperity to large sales rather than to high prices.

What is to be the policy of the I.G.? Dr. Dyes points with approval to the recent reduction in the price of nitrogenous fertilisers, as an example of the fact that the trust is not abusing its powerful position in this direction. He is of opinion that if this is a fair sample of the attitude of the I.G., then the trust is destined to play a very important part in the future

of Germany. Reading between the lines of this German view it is not difficult to see that there is a slow crystallisation of the idea that the whole of German chemical industry is moving towards fusion into one gigantic trust. The conclusion of Dr. Dyes' article is worth special notice. He believes that the existence of trusts can be justified by cheap mass-production, whereby at once internal needs may be satisfied at low prices and export be made possible. "In a land comparatively rich in individuals, but poor in leaders and otherwise impoverished, such as Germany, it is doubly to be regretted if to certain people of initiative an independent activity is, owing to the necessity for mass-production, no longer possible. Unfortunately, it is necessary to face facts which cannot be denied. The first and most important foundation for the rebuilding of Germany is the urgent necessity of the rapid lowering of production costs, with its resulting reduction of prices."

There is still one very important point which remains to be elucidated. What, if any, is the connection between the German Government and the I.G.? So far none is evident, but it seems inconceivable that none exists. In many respects the I.G. already stands as one of the great buttresses of the nation in time of peace or war. A German Government that failed to recognise this, and to see that full advantage was taken of it, would be strangely different from most German Governments.

Dr. Franz Fischer's New Process

THE announcement has recently been made in one of the German chemical journals of the conversion of water-gas by a catalytic process into a mixture of liquid and solid paraffin hydrocarbons which strongly resembles Pennsylvanian petroleum. This discovery is due to Dr. Franz Fischer, of Berlin, who is already well-known for his "Synthol" process for producing mixtures of alcoholic and other oxygenated bodies from water-gas. It has been known for some twenty years, and was in fact discovered by Sabatier, that the carbon monoxide of water-gas can be reduced to methane by the action of a nickel catalyst. The importance of Dr. Fischer's latest discovery lies in the fact that not only the first member of the paraffin series, but also the higher members, can be produced, and that, indeed, the product may be made to consist chiefly of the higher-boiling paraffins by a suitable choice of conditions. The catalysts used are mixtures of oxides of iron and cobalt or copper, etc., and a significant feature of the new process is the use of water-gas at ordinary pressure in place of the highly compressed gas used for the production of "Synthol." As an example of the possibilities of this method, Dr. Fischer has obtained from one cubic metre of water-gas 100 c.c.'s of an oil boiling over a range of about 30° up to 200° C.

As in nearly all catalytic processes, in order to avoid rapid poisoning of the catalyst, it is necessary to remove from the water-gas certain impurities, chiefly sulphur compounds. This purification, while adding to the cost of the process, has the advantageous effect of yielding an oil free from sulphur and therefore specially suitable for use in internal combustion engines.

Our New Dictators

THE case of Bovis, Ltd. *v.* the London Master Builders' Association, which was concluded on Tuesday in the King's Bench Division before Mr. Justice Horridge, deserves the attention of the members of every trade association. As is the way with the courts, the judgment against Bovis, Ltd., was concerned with purely legal issues, or it would perhaps be better to say that there were great questions of policy underlying the case; to which no reference was made in the judgment. The evidence brought out quite a number of facts which concern every trade, every trade union, and everyone interested in commercial activity.

It was shown that Bovis, Ltd., had paid wages higher than the trade union rate. It was further shown that they had arranged overtime with some of their workers without the consent of the employers' federation or the committee of the trade unions. A complaint was made that in connection with a strike some of the workers of Bovis, Ltd., went back before the strike was officially concluded, the complaint being not against the workers or the trade union but against the employers for permitting the workmen to resume work in these circumstances. These are only samples selected from evidence which should be read *in extenso* by every student of industrial development. They disclose a position in the London building trade which would cause us no surprise if the report came, say, from Moscow instead of London. We, for our part, fail to see the difference in principle between a committee of commissars, who exercise despotic sway over workers and consumers alike, and a central authority composed of federation directors and trade union officials without whose consent it is an offence to work.

Books Received

THE MODERN SOAP AND DETERGENT INDUSTRY. Vol. III. THE MANUFACTURE OF GLYCEROL. By Geoffrey Martin. London: Crosby, Lockwood and Son. 30s.

CHEMICAL SYNONYMS AND TRADE NAMES. By William Gardner. London: Crosby, Lockwood and Son. Pp. 355. 30s.

COLLOID CHEMISTRY. THEORETICAL AND APPLIED. Vol. II. THEORY AND METHODS. Collected and Edited by Jerome Alexander. New York: The Chemical Catalog Co. Inc. Pp. 974. $14.50.

The Calendar

July 19	Institution of Chemical Engineers: Fourth Annual Corporate Meeting. Annual Dinner. 6.30 p.m.	Committee Room D, Central Hall, Westminster, London. Empire Room, Hotel Great Central, London.
19–23	Society of Chemical Industry. Annual meeting.	London.
19–24	British Chemical Plant Exhibition. 10 a.m. to 8 p.m. daily.	Central Hall, Westminster, London.
20	British Chemical Plant Manufacturers' Association: Annual Meeting. 2.30 p.m. Annual Dinner. 6.30 p.m.	166, Piccadilly, London, W.1. Hotel Great Central, London.
Aug. 4–11	British Association for the Advancement of Science. Annual meeting.	Oxford.
Sept 20–24	Chemists' Exhibition.	St. Andrew's Hall, Glasgow.

The New Offices of "The Chemical Age"

Distinguished Company at Bouverie House Reception

In connection with the opening of The Chemical Age offices in Bouverie House, Fleet Street, the new headquarters of Benn Brothers, Ltd., and its associated companies, a reception was given yesterday (Friday) afternoon by Sir Ernest Benn, Bart., chairman of the company, to a large gathering of guests associated with chemical science and industry. The guests were received in the beautiful reception room on the third floor, and afterwards shown through the building which, though not completely finished, is already largely occupied. From the open roof, where a conservatory is a pleasant feature, an extremely fine view of London can be obtained. Tea was served in the reception room, and a programme of music was performed by an orchestra.

The reception was one of a series, extending over three weeks, in connection with the firm's various publishing organisations. At all of them the guests have been impressed by the great building, of the size of which the façade of Portland stone, in Fleet Street, gives only a faint idea. The building extends far back into the hinterland of Fleet Street and consists of a ground floor and six upper floors, planned on the most modern lines and containing over 40,000 sq. ft. of office accommodation. Central heating with oil-fired furnaces, its own artesian well, etc., are interesting points about the structure. Literary and journalistic associations cling thick round the site, Goldsmith, Samuel Johnson, and William Cobbett all having lived and worked in the courts and turnings formerly there or bounding the present building. Among the features is a charmingly furnished dining and common room for the use of the staff and their guests.

List of Guests

Among those who accepted invitations to The Chemical Age reception were the following, while many kindly messages expressing inability to attend were received from various parts of the country :—

Mr. J. H. Aiken, Professor H. E. Armstrong, F.R.S., Mr. O. F. C. Bromfield, Mr. J. Gauld Bearn, Miss Blair, Mr. James Barron, Mr. G. A. Blake, Mr. M. Briscoe, Mr. A. Bradbury, Mr. A. Chaston Chapman, F.R.S., Mr. S. Coles, Mr. S. E. Carr (Chemical Society), Mr. F. H. Carr (President-Elect of the Society of Chemical Industry), Mr. F. W. Clifford (Chemical Society), Mr. W. K. Crampton Chalk, Dr. W. Cullen, Mr. W. S. Crosier, Mr. P. M. Dearle (Office of the Canadian High Commissioner), Professor F. G. Donnan (University College, London), Dr. Charles Dorée (Chelsea Polytechnic), Mr. G. L. Duncan, Mr. W. F. Frew, Mr. W. T. Griffiths (Research Department, Woolwich), Mr. C. S. Garland (Chairman of the London Section of the Society of Chemical Industry), Capt. C. J. Goodwin, Professor Goodwin (Toronto), Sir Frank Heath (Department of Scientific and Industrial Research), Professor Hinchley (Imperial College of Science), Mr. R. W. Hart, Mr. H. W. Hollands, Mr. L. J. Hooley, Mr. Stanley Hopkins, Mr. G. C. Hurrell, Dr. Herbert Hoffman, Mr. L. de Loriol, Dr. H. Houlston Morgan, Dr. Morrell, Mr. G. S. W. Marlow, Dr. W. W. Myddleton, Mr. Alwyne Meade, Sir Frederic Nathan (President of the Institution of Chemical Engineers), Dr. Stephen Miall, Mr. Hugh Nicol, Dr. W. R. Ormandy (Chairman of the Chemistry Industry Club), Dr. H. A. Prager, Mr. P. Parrish, Mr. H. L. Pirie, Lt.-Col. Sir David Prain, F.R.S. (Department of Scientific and Industrial Research), Mr. R. O. Price, Mr. J. Arthur Reavell, Dr. Rosenhain (National Physical Laboratory), Mr. H. Munro Ross, Mr. E. W. Record, Mr. W. G. Rumbold, Mr. L. P. Sidney, Dr. S. P. Schotz, Mr. H. M. Spiers, Mr. Norman Swindin, Dr. P. Schidrowitz, Dr. Percy E. Spielmann, Commander Stokes-Rees, R.N., Mr. D. M. Sandral, Mr. E. L. Seaton, Mr. C. W. Spiers, Engineer Captain J. Fraser Shaw (Fuel Research Station), Professor Smithells, F.R.S., (Salters Institute), Mr. Shaw Scott, Miss Small, Dr. E. H. Tripp, Mr. H. Talbot, Mr. W. S. Tietjen, Dr. J. S. G. Thomas, Mr. H. T. Tizard (Department of Scientific and Industrial Research), Mr. W. G. Thomas, Mr. S. J. Tungay, Mr. S. G. M. Ure (Imperial College of Science), Mr. A. Worsley, Mr. Arthur Williams, Dr. G. N. White, Mr. A. Webster, Mr. Bertram Ward, Dr. D. Milne Watson (Governor of the Gas Light and Coke Co. and President of the British Sulphate of Ammonia Federation), Mr. W. J. U. Woolcock (President of the Society of Chemical Industry), Mr. W. H. Woodcock.

Some Interesting Exhibits

During the reception a small but highly interesting group of chemical exhibits was on view. Perhaps the most attractive, because most rare, were two samples of electrolytic beryllium 99·8 per cent. Be, prepared by the National Physical Laboratory, Teddington, and exhibited by the courtesy of the Director. One sample showed a deposit of beryllium obtained electrolytically on a rising cathode, and the other a fragment of the remelted deposit with ground surface. There are many rumours of what the Germans and the Americans have done in this field, but these exhibits proved the production of electrolytic beryllium in a high state of purity to be an actual—and it may be added, a distinguished—achievement by the N.P.L. staff. The polished metal has a brilliant surface, and its surprising lightness was a matter of general comment. Although so light, the metal is nearly as hard as iron. Its use in the production of light alloys, when production passes to the commercial stage, may be expected to lead to very important results. Beside these samples of beryllium were shown, by the courtesy of the Imperial Institute, some crystals of the natural beryl, from which beryllium compounds are prepared, and of which there are valuable deposits in Canada and other parts of the Empire.

Another exhibit that attracted some notice were five vases containing nitrogen products from the air, produced by synthetic processes at the Billingham-on-Tees works of Synthetic Ammonia and Nitrates, Ltd., a branch of Brunner, Mond, and Co. The samples shown were sulphate of ammonia, in the pea or pinhead crystal form, ammonium nitrate, sodium nitrite, ammonia liquor 25 per cent., and ammonia liquor ·880. The Billingham works, according to an explanatory card, began operations in 1920. The present output of synthetic ammonia is 50 tons per day. Extensions are now in progress which will ultimately increase the yield to 200 tons per day.

A third stand contained several interesting examples of the application of organic dyestuffs to the colouring of cement, concrete, aerocrete, etc., by a process that has been already explained in The Chemical Age. Some hundreds of sample cards illustrating the application of B.D.C. colours to natural and artificial silks, cotton, wool, and leather were shown, illustrating the immense range of colours now produced in this country, and an ingenious model served to show the many constituents that go to the making of a dye, and the surprisingly large quantity of fabric that can be coloured with the contents of a small bottle.

Annual Meeting of the B.D.C.

At the annual meeting of the British Dyestuffs Corporation in Manchester on Wednesday, Lord Ashfield (chairman) reviewed the year's operations in detail, referring to the satisfactory amalgamation of Scottish Dyes, Ltd., to the Corporation's strong financial position and its increased service to customers, and to the policy of co-ordination and consolidation pursued with such good results during the year. A dividend of 2½ per cent. was declared, and in seconding a vote of thanks to the chairman, Mr. J. Robinson remarked that the meeting had been the happiest in the history of the Corporation. The meeting will be dealt with more fully in our next issue.

Testimonial to Professor Turner

We have been asked to draw attention to the existence of a general testimonial fund, initiated by the Metallurgical Society of the University of Birmingham, on the occasion of the retirement of Professor Turner from the Chair of Metallurgy. Full particulars and forms of subscription may be obtained from the Hon. Secretary, Turner Testimonial Committee, the University, Edgbaston, Birmingham.

Congress of Chemists: London, July 19-23

Prospects of a Great Meeting

A VERY promising account of the Congress of Chemists which begins in London next Monday and continues throughout the week in connection with the annual meeting of the Society of Chemical Industry was given at a well-attended reception of Press representatives at the Chemical Industry Club on Tuesday. Mr. W. J. U. Woolcock (president of the Society) presided and Mr. F. H. Carr (president-elect) was also present, with Captain Goodwin (chairman of the Publicity Committee), Dr. E. H. Tripp, Mr. S. J. Tungay, Mr. Stanley Hopkins and others. Mr. C. S. Garland (chairman of the London Section) was unavoidably absent.

The Meaning of the Congress

In welcoming the representatives, the PRESIDENT said that the Congress promised to be the most representative of chemical science, chemical industry, and chemical engineering that had ever met in London. No fewer than seventeen chemical and allied organisations would be represented, and in addition to about eight hundred British members there would be many representatives of chemical and scientific bodies from overseas. During the war the science of chemistry came to the aid of the nation in numberless ways in the supply of civilian and military needs, and two notable results had followed—the science and industry of chemistry itself had made enormous strides, and the nation had begun to realise the vital need of efficient chemical services if our industries were to keep abreast of foreign competition.

The discussions at the conference, especially those relating to such subjects as "corrosion," "alcohol fuels," "sugar from wood" and that important group of drugs known as the "Hormones," would give the public some idea of the vital relation of chemical science to every kind of industrial and human interests, and some interesting views might be expected from Earl Balfour in his Messel Memorial Lecture and from eminent industrialists intimately connected with chemical industry. The conference, too, would illustrate the steady growth of a corporate spirit among all chemical organisations and a desire to bring a more direct and united influence to bear on national affairs. They had had for some time in view the ideal of a great national chemical headquarters to be established in London and known as "Chemistry House" and that subject was among those to be considered.

Though the central feature of the Congress would be the annual meeting and other functions of the Society of Chemical Industry, considerable attention would be given to chemical plant and the new science of chemical engineering. The exhibition of chemical plant, to be opened on Monday by Sir Max Muspratt, would not only show how high this country stood in the design and manufacture of plant for complicated chemical processes, but would illustrate the remarkable advances made on the metallurgical side in the production of constructional materials, especially chemical resistant steel and iron and the latest types of alloys. The science of chemical engineering, which was rapidly winning recognition, involved a mastery of both sciences. In the past, the chemist had left engineering to the engineer and the engineer had left chemistry to the chemist, and the lack of co-ordination had often been felt in the difficult work of translating a laboratory process into a large scale works process. An effort was now being made to combine both qualifications under the head of chemical engineering, and the new science appeared to have an important field open to it.

Lastly, he hoped the Congress would emphasise the great lesson of Wembley, namely, that Great Britain chemically was becoming increasingly a productive rather than a distributing nation. In the extraction of nitrogen products from the air, in dyestuffs, in fine chemicals, and in other branches, this country was establishing a reputation corresponding to that it had long held in the field of heavy chemicals. Not only had there been a remarkable advance in the volume and variety of production, but British goods were gaining a reputation for purity of quality second to none in the world. The Congress would serve to remind the nation of what chemistry was doing to promote national and industrial interests, and to convince leaders of industry of the importance of utilising the highest chemical knowledge in their processes if they were to maintain and strengthen their position. (Applause.)

The programme for the week was afterwards explained in detail, and the reception closed with a cordial vote of thanks from the Press representatives to the President of the Committee for the reception and the admirable arrangements made.

The Chemical Plant Exhibition

Latest Types of Constructional Materials

In connection with the Congress a British Chemical Plant Exhibition is to be opened in the Conference Hall, at the Central Hall, Westminster, at 11.30 a.m., on Monday next. The chair will be taken by Dr. R. Seligman, the chairman of the British Chemical Plant Manufacturers' Association, and the opening ceremony will be performed by Sir Max Muspratt, the President of the Federation of British Industries.

The following have promised to be present at the opening ceremony :—Mr. R. M. Bewick, Sir John Brunner, Mr. F. H. Carr (President-elect of the Society of Chemical Industry), Dr. G. C. Clayton, M.P., Mr. Ashley Carter, Mr. A. Chaston Chapman, Engr. Vice-Admiral Sir R. B. Dixon, Mr. E. V. Evans, Dr. Hanson, Sir Alexander Gibb, Mr. G. Gray, Sir Robert Hadfield, Sir Frederic Nathan, Professor J. F. Thorpe, Dr. Slater Price, Mr. H. T. Tizard, Sir Richard Threlfall, Dr. D. Milne Watson, and Mr. W. J. U. Woolcock (President of the Society of Chemical Industry).

The Exhibition will remain open each day during the week from 10 a.m. to 8 p.m. Personal invitations to the exhibition are being addressed by the Association to all who are taking part in the Congress of Chemists, and the 40 exhibitors are inviting the presence of their many friends and clients.

The success of the exhibition is now well assured. Practically all the space isbo oked, although inquiries are still being received for the two or three sites still available. The classified catalogue of exhibits, which will be supplied gratis to all visitors, will contain many pages of exhibitors' specially descriptive announcements, and will constitute a useful and permanent guide to the British chemical plant industry, supplementary to the official directory of the Association.

Any attempt to indicate the nature of the exhibits would involve the recital of an index of chemical plant. It is sufficient to say that every phase of plant manufacture will be covered by the various firms who specialise in the production of particular lines. In addition, there will be exhibits by firms who make a speciality of producing semi-scale plant for the purpose of experiments prior to the putting of laboratory results on to the large scale.

The organising committee has, however, not confined the exhibition to a collection of interesting and up-to-date plant, but has paid special attention to the all-important question of the constructional materials which exert such a large influence upon the life of plant. Enamelled plant and silica materials will occupy prominent places, and particular emphasis is being laid upon the various metals, alloys, rustless irons and steels, and so forth, now available, which have been proved by experience to withstand corrosion by various chemical substances.

Such important allied arts as lead burning, etc., will not be neglected. Attention is also being paid to the improvements now rendered possible in general engineering practice in chemical works in the way of regulators, steam accumulators, heat exchangers, etc. The first British Chemical Plant Exhibition will be well worth a long and detailed inspection.

Progress in Fat Extraction

New British Plant

There are two processes for the extraction of fats from seeds and other materials. One consists in breaking up the material so as to rupture the vessels and applying considerable pressure, either hot or cold, so that the oil is squeezed out of the material. The other process consists in the use of solvents, in which the fat is soluble. The materials are also crushed, but not as a rule to such a great extent, and treated with petrol, benzol or other organic solvent. The apparatus used for this purpose on a large scale necessitates the operation taking place over a considerable period of time—six, eight or more hours.

After extraction by the solvent, the residual material is treated with steam for the removal of the solvent, while the extracted oil has also to be treated for the same purpose. Considerable volumes of solvent are necessary for the operation and the losses of solvent constitute a considerable item in the cost of production. In Germany, the "solvent" process of extraction has always been very successful, but in this country the "pressure" process is preferred and few manufacturers have had any measure of success with the former method.

A new plant has recently been devised and will be described in a paper to be read by Mr. L. J. Simon, M.I.Chem.E., A.M.I.Mech.E., A.M.I.E.E., and Professor J. W. Hinchley, Wh.Sc., A.R.S.M., M.I.Chem.E., F.I.C., entitled "Fat Extraction by Solvents," on Friday, July 23, at 10.30 a.m., in the Marylebone Room of the Hotel Great Central, under the chairmanship of Sir Frederic Nathan, President of the Institution of Chemical Engineers. In this plant, the whole of the process for the production of a residue and an oil—free from solvent—takes place in about half-an-hour.

The plant is rather of the nature of a machine and one man is continually employed in charging and discharging the material which is treated in quantities of 1½ cwt. or so every ten minutes throughout the day. On account of the short period of treatment, the quality of the oil and of the residual material is different from that obtained by the ordinary method; the amount of solvent required is very small and the losses of solvent are reduced to a minimum. The cost of the plant for a given output is much less than that of an ordinary plant and the amount of refining necessary, when the oil is obtained, is extremely small, so that a greater output is obtain from a given quantity of raw material. It is interesting to note that in the case of linseed, the oil obtained is free from the characteristic odour of linseed oil, although it possesses its well-known properties.

How Chemistry Replaces Nature

Insulin to be Followed by Other Life-Saving Drugs

The introduction into medical practice during recent years of the active principle from the pancreas, known as insulin, has rescued from premature death and restored to full and efficient life unnumbered sufferers from diabetes. It is not so generally recognised that insulin is only one, and the latest to come into effective use, of a group of potent principles which the body makes for the control of its vital activities—the so-called hormones. A hormone which came much earlier into practical use in medicine was that of the thyroid gland.

Work on thyroxin, the active principle of the thyroid gland, carried out at University College, London, has by the skill and ingenuity of Dr. C. R. Harington recently yielded the secret of its chemical constitution. The extraordinary potency of thyroxin is comparable with that of insulin. Moreover, Dr. Harington's discovery has greatly cheapened the use of thyroxin so that the expense of employing it in medicine is no bar to its use.

Great interest is being evinced in a discussion which is to take place, under the chairmanship of Sir Alfred Mond, at the Congress. Dr. H. H. Dale, who has played a very distinguished part in his contribution to this field of knowledge, will open the discussion, in which biochemists dealing with the scientific aspect of the subject will confer with industrial chemists concerned with the practical side of producing these active drugs on the manufacturing scale.

Chemical Exhibition at the Institute

In connection with the Congress of Chemistry it may be noted that an exhibition of laboratory apparatus and instruments, fine chemicals, reagents, filter paper, scientific books, etc., is being held at the Institute of Chemistry, 30, Russell Square, London, W.C.1, July 19 to 24. The exhibition will be open each day from 10 a.m. to 8 p.m., except Saturday, July 24, when it will close at 12 noon. A preliminary list of exhibits has been issued by the Institute, in which a very great variety of chemicals, apparatus, etc., which will be displayed by a number of manufacturers, is indicated. The object of the exhibition is to demonstrate the progress made by British manufacturers in the production of the essential requirements of professional chemists, many of which were formerly obtained almost entirely from foreign sources.

The Week's Programme

Monday, July 19

10 a.m.—Fourth annual corporate meeting of the Institution of Chemical Engineers, at the Central Hall, Committee Room D, Westminster. Business and presidential address by Sir Frederic L. Nathan on "Industrial Efficiency and the Elimination of Waste."

11.30 a.m.—Opening of the Exhibition of Chemical Plant at the Central Hall, Westminster, by Sir Max Muspratt.

2.30 p.m.—At the Mansion House, in the presence of the Duke of York, K.G., the Lord Mayor (Sir William R. Pryke) presiding, the presentation of the Society's Messel Medal to the Earl of Balfour. The Messel Memorial Lecture will thereafter be delivered by Lord Balfour. Admission by ticket only.

6.30 for 7 p.m.—Annual dinner of the Institution of Chemical Engineers in the Empire Room, Hotel Great Central.

8.15 p.m.—Reception by the President of the Society of Chemical Industry (Mr. W. J. U. Woolcock), in the Winter Garden, Hotel Great Central.

9 p.m.—Smoking concert in the Wharncliffe Rooms, Hotel Great Central.

Tuesday, July 20

9.30 a.m.—Meeting of the Council of the Society of Chemical Industry in the Red Room, Hotel Great Central.

10 a.m.—Annual meeting of the Society of Chemical Industry (for members only) in the Marylebone Room, Hotel Great Central. Business and presidential address by Mr. W. J. U. Woolcock.

10.30 a.m.—Joint meeting of the British Chemical Plant Manufacturers' Association, the Institute of Metals, the Institution of Chemical Engineers, and the Chemical Engineering Group for a Symposium on "Corrosion" in the Empire Room, Hotel Great Central. Papers will be read by:—(1) Mr. Ulick R. Evans, "Fundamental Principles of Corrosion"; (2) Mr. W. H. Hatfield, "Chemically Resistant Steels for Chemical Engineering"; and (3) Mr. P. Parrish, "Corrosion and Erosion."

11 a.m.—Joint meeting of the Bio-Chemical Society with the London Section of the Society of Chemical Industry in the Regent Room, Hotel Great Central. Subject: "The Scientific and Industrial Problems presented by the Hormones—the Natural Drugs of the Body." Chairman: Sir Alfred Mond, M.P. Papers will be read by:—(1) Dr. H. H. Dale, C.B.E., Sec.R.S., "The Experimental Study and Use of Hormones"; (2) Dr. H. W. Dudley, "The Chemistry of the Pituitary Gland and of Insulin"; (3) Mr. F. H. Carr, C.B.E., "The Commercial Production of Hormones"; (4) Dr. H. A. D. Jowett, "The History of Adrenalin"; (5) Prof. G. Barger, F.R.S., "Recent Progress in the Chemistry of Thyroxin"; (6) Dr. J. W. Trevan, "Biological Assay of Hormones." A general discussion will follow the papers.

1.15 for 1.30 p.m.—Lunch in the Winter Garden, Hotel Great Central, by invitation of the London Section of the Society of Chemical Industry.

2.30 p.m.—Annual meeting of the British Chemical Plant Manufacturers' Association, at 166, Piccadilly, W.1.

3 p.m.—Discussion on "Chemistry House," to be opened by Dr. Stephen Miall. This meeting, arranged by the British Association of Chemists, will be held in the Marylebone Room, Hotel Great Central, and is open to members of any of the societies.

4 to 6 p.m.—Garden Party at the Royal Botanic Gardens, Regent's Park, N.W.1, by invitation of Sir Alfred Mond, M.P., and Lady Mond. The Central Band of H.M. Air Force (by permission of the Air Council) will play.

6.30 for 7 p.m.—Annual dinner of the British Chemical Plant Manufacturers' Association at the Hotel Great Central.

8.30 p.m.—Reception in the Winter Garden and dance in the Wharncliffe Rooms, Hotel Great Central.

Wednesday, July 21

10.30 a.m.—Annual meeting of the Society of Chemical Industry in the Marylebone Room, Hotel Great Central. Addresses by Sir Josiah Stamp and Sir Max Muspratt. Chairman: Mr. W. J. U. Woolcock.

Afternoon.—Visits to the following works and laboratories: General Electric Co., Ltd. (Osram Robertson Lamp Works), Hammersmith (limited to 140); Watney, Combe, Reid and

Co., Mortlake; Bryant and May, Ltd., Bow, E. (limited to 200); Research Laboratory of the British Rubber and Tyre Manufacturers, Croydon (limited to 12); Research Station, The Anglo-Persian Oil Co., Sunbury (limited to 30); Whitbread's Brewery, Chiswell Street, E.C.1 (limited to 50); London Wholesale Dairies, Harrow Road (limited to 30); Naylor Bros., Ltd., Paint Works, Slough (limited to 30).

Whole Day.—A whole day charabanc drive through Surrey has been arranged for the ladies. The places visited will include Ockham (lunch at the Hautboy Hotel), Ripley, Newlands Corner, Leith Hill, Ockley (tea at the Red Lion Inn) and Dorking.

7.30 p.m.—Reception by the President of the Society of Chemical Industry in the Winter Garden, Hotel Great Central.

8 p.m.—Annual dinner of the Society of Chemical Industry in the Wharncliffe Rooms, Hotel Great Central.

Thursday, July 22

10.30 a.m.—Annual meeting of the Society of Chemical Industry in the Marylebone Room, Hotel Great Central. Joint meeting arranged by the Chemical Engineering Group with the Institution of Petroleum Technologists, and the Institution of Chemical Engineers on "Power Alcohol." Chairman: Sir Thomas Holland. Papers will be read by: (1) Dr. W. R. Ormandy, "Sugar from Wood"; (2) Mr. Douglas Ross and Dr. W. R. Ormandy, "Experiences with Alcohol Motor Fuels."

10.30 a.m.—Joint meeting of the Institution of the Rubber Industry and the Oil and Colour Chemists' Association, in the Regent Room, Hotel Great Central. Chairman: Sir William Bragg. Subject: "The Influence of Particle Size in the Paint and Rubber Industries." Discussion to be opened by Dr. D. F. Twiss (rubber industry) and by Dr. H. Houlston Morgan and Mr. C. A. Klein (paint industry).

Afternoon.—Visits to the following works and laboratories: National Physical Laboratory, Teddington; Burroughs, Wellcome and Co., Chemical Works, Dartford (limited to 50); British Drug Houses, Ltd., City Road, N.1 (limited to 80); Chemical Laboratories and Physics Laboratory of the Imperial College of Science and Technology, South Kensington, S.W.7; Chemical Laboratories, University College, Gower Street, W.C.1; Fuel Research Station, East Greenwich (limited to 50); Research Laboratories and Glass Works of the General Electric Co., Ltd., Wembley (limited to 40).

Evening.—Conversazione.

Friday, July 23

Whole Day.—Excursion to Reading (limited to 160). The works of Huntley and Palmers, Ltd., will be visited, luncheon and tea being provided by the directors. The day's programme includes a trip on the Thames, and dinner will be taken at Skindles Hotel, Maidenhead, which will be reached by charabanc *via* Henley.

10.30 a.m.—Meeting in the Marylebone Room, Hotel Great Central, arranged by the Institution of Chemical Engineers and the Oil and Colour Chemists' Association, for discussion on "Fat Extraction by Solvents." A paper on this subject by Mr. L. J. Simon and Professor J. W. Hinchley will be read.

10.30 a.m.—Meeting of the Fuel Section in the Empire Room, Hotel Great Central. Chairman: Professor Arthur Smithells. Summary of the symposia at Leeds and Sheffield on "Solid Smokeless Fuel," by Dr. E. W. Smith.

Afternoon.—Launch trip from Westminster to Greenwich, tea being served on the return journey.

Australian Chemical Institute

PROFESSOR E. H. RENNIE, of Adelaide University, has been appointed president of the Australian Chemical Institute for the current year. He is the senior professor of chemistry in Australia, both in respect of age and tenure of office. Born in 1852 in Sydney, he graduated as bachelor of arts in 1870 and as master of arts in 1876. In 1877 Professor Rennie went to London and graduated as a doctor of science at the University of London in 1881. He was appointed professor of chemistry at the University of Adelaide in 1885, and has been for many years a member of the council of the university. Professor Rennie is a Fellow of the Institute of Chemistry of Great Britain and Ireland, and is president-elect of the Australasian Association for the Advancement of Science.

Lignite for Steam Generation

Some Interesting Tests from Roumania

SOONER or later other countries than Germany will develop on a most extensive scale their lignite (brown coal) resources, and great attention is being concentrated on the subject in Australia, Canada, the United States (especially North Dakota), the Malay States, French Cochin-China, and the Belgian Congo. Two general methods are employed, carbonisation and combustion, not much progress having been made so far with total gasification. Lignite is, of course, an extremely difficult material to burn, generally containing 40 to 50 per cent. moisture and being a soft friable powder, almost like snuff, so that in many cases further water has to be squirted on it.

That fuel of this character can be utilised successfully, however, is shown by the results of a very interesting series of tests that have been carried out in Roumania at the tannery of Gregori Alexandrescu, of Bucharest. In this case the boilers are of the small water tube type "Babcock and Wilcox," and "Lemaitre." A similar design, and with ordinary hand-fired grates on a "Babcock" boiler the amount of lignite consumed was 676·4 kilo per hour with an evaporation of 1,640·7 kilos of water, corresponding to 54·00 per cent. efficiency, of which, however, 5·20 per cent. is due to the superheater. The chemical analysis of the lignite as fired was 32·25 per cent. water, 11·31 per cent. ash, 36·22 per cent. fixed carbon, and 30·22 per cent. volatile matter.

An adjoining "Lemaitre" boiler without superheaters was fitted with a "Turbine" forced draught steam jet furnace of approximately the same grate area, and the improvement in performance is very marked. Thus 626·6 kilos of lignite is not burnt per hour, corresponding to an evaporation of 2,189·0 kilos of water operating at 70·90 per cent. efficiency even in the absence of superheaters, being a great increase both in evaporation and thermal efficiency. In these trials the analysis of the lignite was 28·82 per cent. water, 15·31 per cent. ash, 35·90 per cent. fixed carbon, and 19·97 per cent. volatile matter. Further, it is interesting to note that the ash and clinker contained 97·79 per cent. inorganic matter and 2·21 per cent. fixed carbon, whereas with ordinary grate conditions the figures were 66·16 per cent. mineral matter, 29·67 per cent. fixed carbon and 4·17 per cent. volatile, the material being only partially burnt. Lignite can also be burnt on large water tube boilers, either by mechanical stokers or pulverised fuel methods, although special methods have to be adopted.

Australian Carbide Industry

THE Australian carbide industry is now in the hands of the Tasmanian Government, who claim that the works at Electrona are capable of meeting the entire carbide requirements of the Commonwealth. Carbide is being increasingly used for oxy-acetylene welding and cutting, and the development of the industry is considered to be essential to the Commonwealth's wellbeing, and for this reason a higher dumping duty is being asked for, as it is considered that the present duties are being evaded. Among other allied products is the production of nitrogenous fertilisers, which are a necessary aid to economic agriculture, and other subsidiaries closely allied to the manufacture of carbide.

Australian Radium Amalgamation

AN interesting step is contemplated by the four companies engaged in the exploitation of the large deposits of radioactive ores which exist in South Australia. Extraordinary general meetings of the Radium and Rare Earths Treatment Co. N.L. (the parent company), United Mount Painter Radium Co. N.L., Mount Painter Exploration Radium Co. N.L., and Mount Painter Heights Syndicate N.L., have been held. It is proposed to form a new company, with a nominal capital of £500,000, to be named the Australian Radium Corporation N.L., and that each of the four companies should receive 50,000 fully paid shares and 50,000 paid to 5s. each. The new company will acquire and carry out the business of the existing companies, which will, should the proposals be carried into effect, go into voluntary liquidation. It is considered that an amalgamation of interests would make for more economical working, as the companies were all formed with the one object, and their interests are to a large extent identical.

Chemical Trade Returns for June

Imports Up and Exports Down on 1925

THE Board of Trade returns for June indicate that chemical imports increased from £1,262,861 in June of 1925 to £1,372,064 last month, an increase of £109,202. The chemical exports of produce and manufactures of the United Kingdom show a decline of £56,399 from £1,951,446 in June of 1925 to £1,895,047 last month. Chemical re-exports of imported merchandise increased by £22,976 from £66,336 in June of 1925 to £89,312 last month. For the six months ended June 30, imports are down by £57,251 as compared with 1925, exports are down by £854,077, and re-exports are down by £107,660. The following tables give the detailed figures for the principal items included in chemicals, dyes, drugs and colours for June of 1925 and 1926:

Imports

	Quantities. Month ending June 30.		Value. Month ending June 30.	
CHEMICAL MANUFACTURES AND PRODUCTS—	1925.	1926.	1925.	1926.
Acid Acetic . tons	847	959	39,867	38,468
Acid Tartaric, including tartrates, not elsewhere specified .cwt.	4,189	5,300	20,154	26,293
Bleaching materials ,,	5,286	10,337	6,705	9,985
Borax ,,	5,080	9,321	5,944	10,335
Calcium Carbide ,,	52,894	46,121	35,897	28,430
Coal Tar Products, not elsewhere specified value	—	—	134,133	137,762
Glycerine, crude .cwt.	10	715	28	2,044
Glycerine, Distilled ,,	70	156	273	671
Red Lead and Orange Lead ,,	3,026	3,029	5,697	5,513
Nickel Oxide ,,	4,039	4,503	20,582	25,300
Potassium Nitrate ,,	5,225	7,029	6,654	8,083
Other Potassium Compounds ,,	73,664	85,669	28,987	38,815
Sodium Nitrate ,,	65,104	9,537	41,031	6,068
Other Sodium Compounds ,,	16,600	26,414	13,772	17,136
Tartar, Cream of ,,	4,727	3,978	16,702	14,539
Zinc Oxide .tons	1,238	1,138	41,137	35,929
All other sorts .value	—	—	228,380	346,714
DRUGS, ETC.—				
Quinine and Quinine Salts oz.	125,954	129,470	12,024	10,991
Bark Cinchona .cwt.	1,044	1,766	5,150	8,229
Other sorts .value	—	—	241,647	281,314
DYES AND DYESTUFFS—				
Intermediate Coal Tar Products .cwt.	120	—	1,204	—
Alizarine ,,	89	219	2,265	5,099
Indigo, Synthetic ,,	—	—	—	—
Other sorts ,,	1,636	2,594	40,312	54,718
Cutch ,,	6,321	3,480	10,838	5,397
Other Dyeing Extracts ,,	4,669	5,946	13,906	17,563
Indigo, Natural ,,	—	37	—	846
Extracts for Tanning ,,	142,093	77,122	137,256	75,201
PAINTERS' COLOURS AND MATERIALS—				
Barytes, ground .cwt.	71,850	64,412	18,101	15,125
White Lead (dry) ,,	14,634	14,886	28,585	28,484
All other sorts ,,	80,250	77,058	105,631	117,012
Total of Chemicals, Drugs, Dyes and Colours .value	—	—	1,262,862	1,372,064

Exports

CHEMICAL MANUFACTURES AND PRODUCTS—				
Acid Sulphuric .cwt.	2,364	5,447	2,610	4,020
Acid Tartaric ,,	634	810	3,436	4,164
Ammonium Chloride (Muriate) .tons	282	245	8,495	6,580
Ammonium Sulphate				
To France tons	—	—	—	—
Spain and Canaries ,,	12,535	4,042	151,569	43,046
Italy ,,	138	43	1,735	487
Dutch East Indies ,,	—	174	—	1,939
Japan ,,	998	4,816	11,975	54,129
British West India Islands (including Bahamas) and British Guiana tons	1,556	1,077	20,460	12,571
Other Countries ,,	4,348	2,118	54,582	25,863
Total ,,	19,575	12,270	240,321	138,035

	Quantities. Month ending June 30.		Value. Month ending June 30.	
	1925.	1926.	1925.	1926.
BLEACHING POWDER .cwt.	14,725	25,662	8,085	13,129
COAL TAR PRODUCTS—				
Anthracene .cwt.	381	—	171	1
Benzol and Toluol galls.	916	147	116	15
Carbolic acid .cwt.	14,621	9,428	22,008	14,103
Naphtha .galls.	3,727	6,671	423	615
Naphthalene .cwt.	1,013	1,424	867	897
Tar Oil, Creosote Oil, etc. .galls.	4,687,822	6,902,246	132,528	211,907
Other sorts .cwt.	33,772	28,714	22,668	20,285
Total .value	—	—	178,781	247,823
Copper, Sulphate of .. tons	4,406	4,779	95,622	100,179
Disinfectants, insecticides, etc. .cwt.	34,193	33,131	80,996	79,547
Glycerine, crude ,,	4,274	2,243	11,189	6,431
Glycerine, distilled ,,	9,299	9,788	36,245	40,765
POTASSIUM COMPOUNDS—				
Chromate and Bichromate .cwt.	1,361	1,334	2,641	2,448
Nitrate (Saltpetre) ,,	538	2,139	1,007	4,209
All other sorts ,,	2,058	1,498	16,346	10,095
Total ,,	3,957	4,971	19,994	16,752
SODIUM COMPOUNDS—				
Carbonate .cwt.	572,174	399,457	150,296	119,757
Caustic ,,	135,845	136,605	105,869	106,326
Chromate and Bichromate ,,	1,994	2,992	3,240	4,287
Sulphate, including Salt Cake ,,	65,157	149,216	10,704	20,816
All other sorts ,,	43,239	51,973	55,153	39,019
Total ,,	818,409	740,243	325,262	290,205
Zinc Oxide .tons	136	129	5,867	5,262
Chemical Manufactures, etc., all other sorts value	—	—	276,291	258,300
Total of Chemical Manufactures and Products (other than Drugs and Dyestuffs) .value	—	—	1,293,194	1,211,192
DRUGS, MEDICINES, ETC.—				
Quinine and Quinine Salts oz.	136,243	192,628	17,983	20,458
Opium .lb.	71	246	176	397
All other salts .value	—	—	232,147	281,302
Total ,,	—	—	250,306	302,157
DYES AND DYESTUFFS—				
Coal Tar Products .cwt.	9,269	4,973	78,873	51,684
Other sorts ,,	4,093	6,374	5,470	9,400
Total ,,	13,362	11,347	84,343	61,084
PAINTERS' COLOURS AND MATERIALS—				
Barytes, ground .cwt.	8,657	6,146	3,558	2,228
White Lead (dry) ,,	9,441	6,993	21,647	13,563
Paints and Colours, ground in Oil or Water ,,	39,839	45,062	92,843	104,260
Paints and Enamels Prepared ,,	30,827	31,492	112,473	99,057
All other sorts ,,	53,989	62,239	93,082	101,506
Total ,,	142,753	151,932	323,603	320,614
Total of Chemicals, Drugs, Dyes, and Colours .value	—	—	1,951,446	1,895,047

Re-exports

Chemical Manufactures and Products—	Quantities: Month ending June 30. 1925	1926.	Value: Month ending June 30. 1925.	1926.
Acid Tartaric .....cwt.	77	78	492	473
Borax..... ,,	6	126	9	160
Coal Tar Products ,,	—	—	463	22
Glycerine, crude .. ,,	—	180	—	540
Glycerine, distilled. ,,	—	—	—	—
Potassium Nitrate ,,	74	46	118	73
Sodium Nitrate .. ,,	1,020	597	657	416
Tartar, Cream of .. ,,	725	311	2,634	1,253
All other Sorts....value	—	—	13,601	18,079
Drugs, Medicines, etc.—				
Quinine and Quinine Salts .....oz.	15,208	15,631	2,121	1,851
Bark Cinchona ....cwt.	207	362	1,091	4,070
All other sorts ...value	—	—	34,928	37,597
Cutch .....cwt.	1,698	896	2,808	1,301
All other sorts .... ,,	199	229	1,357	1,180
Indigo, Natural ... ,,	—	—	—	—
Extracts for Tanning (solid or liquid) ,,	1,837	12,024	2,334	11,930
Painters' Colours and materials ..... ,,	708	1,194	3,398	5,810
Total of Chemicals, Drugs, Dyes and Colours .....value	—	—	66,336	89,312

Government Advertising

To the Editor of The Chemical Age.

Sir,—Critics of the Government's handling of the coal situation protest that too much attention is being directed to the production of coal as against the marketing of that commodity. Whatever grounds there be for the charge in this particular instance, will you allow me, as one quite outside Government circles, to point out the fantastic inaccuracy of the accusation, which is pleaded by many manufacturers in extenuation of their own lack of initiative, that the British Government is unconcerned with finding markets for British goods?

The truth is that the British Government has been first amongst the governments of all the world to spend money in Press advertising in this country and abroad with a view to increasing our trade, and it is through the Government's help that any British manufacturer can have his goods shown at the British Industries Fair next February for the ridiculously small sum of £25. Surely this is the cheapest proposition ever put up to any business man for getting orders all over the world. At last year's Fair there were thousands of foreign buyers alone. This year the Government is making even greater efforts to attract buyers from all countries. If there be any British manufacturer who now refuses to meet this army of potential customers in February next, well, the sooner he stops grumbling about the lack of British trade the better.—Yours, etc.,

Imperial House, Kingsway. C. F. Higham.
July 9.

Silica Tubing

To the Editor of The Chemical Age

Sir,—We have noticed the articles on page 5 of your issue of July 3 and page 28 of your issue of July 10 regarding repairs to silica tubes.

As manufacturers, we should like to point out that any repairs which may be possible can be carried out at our works by skilled workmen, and we think it would be to the advantage of any of your readers who wish work of this description carried out to forward the pieces to us, when they would receive immediate attention.

Although at first sight it appears a simple matter to join up two lengths of silica tubing, we have no doubt that it will be found more economical in the end to forward such repairs to us, as we have special workers and plant for the purpose. It is in many cases more economical to have two broken lengths joined together than to purchase a new tube.—Yours, etc.

(For the Thermal Syndicate, Ltd.)
R. W. Clark,
Sales Manager.

General Organisation of Science

To the Editor of The Chemical Age.

Sir,—There is increasing evidence that the advance of science is handicapped owing to the absence of a general and open leadership, which can co-ordinate the activities of many of the societies which have come into being through an unnecessary sub-division of research.

This position can be met in one of two ways. Either the Royal Society can be brought into closer touch with modern organisation by some process of reconstruction or increased membership, preferably in the direction of associate membership, when its influence would be aided by the combined experience and aims of two generations of scientific workers, instead, as at present, by only one; or else a General Institute of Science should be formed to undertake this essential work. In the latter case the Royal Society would continue to take its present great interest in research, and the new Institute could deal in a more general manner with the efficient organisation of scientific progress.

For instance, the Institute might exert a most beneficial influence upon such matters as the unfortunate position of the London University in regard to its Bloomsbury site, by bringing this matter to the notice of all concerned, and by organising the forces of progress in such a manner that the University would not continue to be homeless and scattered.—Yours, etc., W. P. Dreaper.

Hampstead, N.W.3.
July 10.

The Sir John Cass Institute

Appointment of New Principal

The governors of Sir John Cass's Foundation have appointed Mr. George Patchin, A.R.S.M., as principal of the Sir John Cass Technical Institute, London, in place of Dr. Charles A. Keane, resigned.

Mr. Patchin was educated at the Royal School of Mines, where he held from 1895 to 1898 a national scholarship, and in 1898 obtained a first place in the first-class in metallurgy in the examination for the Associateship and the Bessemer medal. In 1898 he was appointed chief assistant in the Chemistry Department and Lecturer in Metallurgy at Birkbeck College, subsequently in 1901 becoming head of the Department of Metallurgy, where he remained until 1912, when he was appointed Lecturer in Metallurgy at the Sir John Cass Technical Institute. As from July 1, 1919, he was appointed head of the Metallurgy Department at the Sir John Cass Technical Institute, which post he has retained until the present time. During the absence of the principal, owing to illness, he has been deputy-principal and subsequently acting-principal of the Institute.

During the forthcoming session the Institute, which specialises in physics, chemistry, metallurgy, petroleum technology, the fermenation industries, and arts and crafts, will have completed 25 years as a City Polytechnic.

Phosphates Cargo Action

On Thursday, July 8, in the Commercial Court, King's Bench Division, Mr. Justice Sankey, tried an action by Rederi Transatlantic of Gothenberg, owners of the s.s. *Anten*, against La Compagnie Française des Phosphates de l'Oceanie, Paris, claiming demurrage or damage for alleged detention of the steamship. The vessel was chartered by the defendants to carry a cargo of 8,800 tons of phosphates from Mallatea in the South Pacific to Sweden, and the plaintiffs alleged that the defendants had incurred demurrage or had been guilty of detention. The defendants denied that there was any demurrage or damages due for detention. His Lordship gave judgment for defendants with costs.

Wedding of Mr. F. J. M. Brunner

The marriage took place on Thursday, July 8, at St. Margaret's, Westminster, of Mr. Felix John Morgan Brunner, son of Sir John and Lady Brunner, with Dorothea Elizabeth, daughter of the late Mr. Henry Brodribb Irving and of Mrs. H. B. Irving. Mr. E. V. Rutherford acted as best man. Among the guests were Mr. Roscoe Brunner, uncle of the bridegroom, and Mrs. Brunner, Sir Alfred and Lady Mond, and Sir Richard Threlfall. After the wedding Mrs. H. B. Irving held a reception at the Hyde Park Hotel.

"Britain's Economic Plight"

As Seen Through American Eyes

BRITAIN'S ECONOMIC PLIGHT. By Frank Plachy, Jun. London: Ernest Benn, Ltd. Pp. 214. 7s. 6d.

The author, an American newspaper correspondent who has lived in this country for some years and got to know much about our habits and institutions, has produced a volume full of American "pep," with vivid, and on the whole, shrewdly accurate generalisations, and an eye for seeing both excellences and defects of which the native Englishman is often unconscious. The book covers a wide field, touching in turn on such questions as the coal crisis and unemployment, Empire markets and the textile industries, the British business man's attitude to the Baldwin Government, the secret of high wages, newspapers, banking and advertising, England and the League of Nations, England as a tourist ground, and so on, down to our old-fashioned courteous ways, our terrible climate, and our impossible cooking. It is a book worth the study of every business man on the look-out for new ideas, or for the man of leisure who likes to know what observant visitors think of his country.

While Mr. Plachy finds much at which he genially pokes fun, his real respect and admiration for the British race are revealed in one of his many conclusions—that Britain's greatest exports are its men and institutions. The book should be read to get from it all the benefit of an acute observer and racy journalistic writer, but the spirit and the substance of the conclusions are indicated in the following passages:

"Britain's resources are tremendous and incalculable; probably far greater than the British people themselves have the slightest idea. It has the transportation, the manufacturing plant, the credit, the raw materials, the reputation, and apparently everything that goes to make a trading and manufacturing nation pre-eminent in its sphere. But as matters stand to-day, it isn't using the kind of economic intelligence necessary to turn these national resources to the best account. It is the human element that is at fault. Ships, machines, money and raw materials are not enough, there must be the genuine spirit of co-operation between workers and employers that is becoming more and more the rule in America, and there must be a greater loyalty on the part of the people of the British Isles, a market numerically half as large as the American market in itself alone, in demanding and getting British-made goods.

"The truth is that the British worker has been misled and made to suffer for old evils which might have been removed decades ago. His leaders, with some honourable and brilliant exceptions, have too often been of the type who prefer violence, disruption and acrimony to peace, co-operation and plenty. The great question is whether the workers will wake up to the situation and realise that the more they give for a day's pay the more there will be for everybody, and the more wages may ultimately be paid when British goods are produced at so low a cost as to be sold in competition with the goods of Germany, Italy, Japan and the other nations where the workers are not told by their leaders that the least each one does is the best, on the theory that more jobs will thereby be made available.

"General statements are seldom true, but it seems to me that taking things in the broadest sense, the working class of England to-day is definitely lower in economic intelligence than the same class in America, Germany, France, Belgium and possibly Italy. The leaders must take the biggest share of the blame for this, because prior to the war the English workers' industry was almost the standard of Europe. To-day there are too many always looking for something to disagree with and complain about; too many like the famous Irishman who would rather have his grievance than his job.

"But it is hard to be pessimistic about the future of Great Britain when one turns to the credit side of the ledger. The resources of the Empire are so tremendous they stagger the imagination. With modern methods of exploiting the tropics and with the discoveries in hygiene that make possible the inhabitation of that part of the world by white men and women, the possibilities along that line are unlimited. . . . The foundation already exists on which the British may rear that structure pictured by United States Ambassador Houghton, when he said in Washington that, within twenty years, Great Britain would become one of the most prosperous nations in the world. To an outside observer, it would seem that only the British themselves can prevent that dream coming true."

Indian Chemical Notes

(FROM OUR INDIAN CORRESPONDENT.)

THE position of Indian salt in the Bengal market is the subject of a representation by the Indian Chamber of Commerce, Calcutta, to the Government of India. The Chamber refers to the proposal of the Taxation Inquiry Committee for the grant of a strictly temporary advantage to local manufacturers either by way of rebate of duty or a differential duty on imports or both, and says that it is deserving of the fullest measure of sympathy from the Government of India. The Chamber contends that the advantages of a markedly low sea freight and of deferred payment of duty under a system of transport in bond, which makes for such remarkable cheapening of imported salt, are entirely absent in the case of local manufacturers. It is also stated that the rating policy of the Indian railways, which discourages cheap movement of salt from the sources of supply to the Bengal market, is a serious handicap to Indian salt. The Chamber therefore asks for an early relief to the local manufacturers by grant of rebate on excise duty on salt which enters the provinces of Bengal, Bihar and Assam either by sea or land routes.

Bombay Opinion

The Chamber asks for a rebate of Ans. 10 per maund of salt. This would virtually reduce salt duty in Bengal by 50 per cent. This reduction amounts to Rs. 75 lakhs as the total imports of salt into Bengal from foreign countries amount to one and a quarter crore maunds. On this ground alone Bombay opinion does not favour the proposal. It is pointed out that Bengal suffers from certain natural disabilities which have rendered it impossible to locate and construct large salt works within the province and to make it self-supporting in its requirements.

Salt is found in abundance in Kathiawar in the Bombay Presidency, and, with the opening of the Port Okha by the Baroda State, Bengal can easily get its salt from there. The newly projected salt works at Port Okha, it is pointed out, will be in a position to compete most effectively with any foreign salt works without the aid of any protection or rebate or subsidy from Government.

An important factor in the development of the salt industry is the cost of transport from Kathiawar to Bengal. Sea freight forms nearly 500 per cent. of the cost price "ex ship" in Calcutta. Arrangements are being made to reduce this sea freight to a very low figure by chartering special steamers which will bring coal from Bengal for Bombay, Karachi, etc., the same steamers carrying salt for Bengal. The introduction of Indian salt in the Bengal market may, it is contended, encounter opposition from combined vested interests, and it is therefore suggested that a protective tariff on imported salt may be necessary. For this purpose Bombay opinion favours an inquiry, by a special committee appointed by Government, into the question of protection which may be necessary for the development of the salt industry in India.

Electric Insulators

The Board of Industries of Bihar and Orissa have had under consideration a scheme for the manufacture in Bihar of electrical insulators, with the China Clay resources available in the province. The scheme has been formulated by Mr. S. Deb, general manager of Bengal Potteries, Ltd. It is estimated that a sum of about Rs. 5 lakhs will be required in the beginning to work the scheme as designed: a large proportion of this sum may be met by obtaining capital on shares from the public. The scheme has been approved and State aid has been promised.

After a series of trials and experiments in their factory, Abbot Brothers, of Jhansi, in U.P., have been able to manufacture pipes of reinforced cement to the degree of perfection which obtains in Australia and South Africa.

Power Alcohol and Fuel Oils

Departmental Committee Report on Production

A PAMPHLET entitled "Power Alcohol Production" has been issued by the Ministry of Agriculture and Fisheries (H.M. Stationery Office, 6d.). This pamphlet embodies the report of a committee consisting of Sir Robert Robertson, Government Chemist, Sir Joseph Petavel, Director of the National Physical Laboratory, and Mr. W. A. S. Calder, managing director of Chance and Hunt, Ltd., the committee being appointed to report on the manufacture of alcohol for power purposes from sugar beet. In addition, the committee was asked to report on the prospects of alcohol production from other sources. The committee state that "the cost of raw material, referred to a gallon of alcohol, after allowing for the value of residual products, should be taken as 5 per cent. of the price per ton of beet. Manufacturing cost—i.e., the total cost of conversion—should be put at the rate of 9d. per gallon. Thus, with sugar beet at £1 and £2 per ton respectively, the cost per gallon of 95 per cent. alcohol net naked at works would be 1s. 9d. and 2s. 9d. respectively. In addition, there are costs due to denaturation, packages, transport and selling charges."

It is added that for use in internal combustion engines of present design, one gallon of 95 per cent. alcohol is equivalent to less than three-quarters of a gallon of petrol. It is possible that if the situation is skilfully handled from the commercial point of view, a market for a moderate quantity of fuel alcohol at approximately the same price as petrol might be secured. The theoretical yield of 95 per cent. alcohol from 1 cwt. of sucrose is eight gallons. Of this, 85 per cent. can be obtained in good practice, so that the practical yield would be 6·8 gallons of 95 per cent. alcohol from 1 cwt. of sucrose. The relative positions of home-grown sugar and power alcohol in respect of Government assistance which would arise if the application of the British Power Alcohol Association for a subsidy for alcohol production were allowed would appear to be as follows: Sugar, commercial price 28s. per cwt., subsidy (net) 12s. 1d. per cwt. or 43 per cent. of commercial price, subsidy (gross) 19s. 6d. per cwt., or 70 per cent. of commercial price; alcohol, commercial price—assume the same price as petrol, 1s. 6d. to 2s. per gallon, subsidy 19s. 6d. per cwt. of sugar or 2s. 10½d. per gallon, which represents 191 per cent. of commercial price if taken at 1s. 6d. per gallon, or 144 per cent. of commercial price if taken at 2s. per gallon.

Summing up the evidence regarding the production of alcohol by synthetic processes, the report states that "the present position with regard to the production of alcohol by synthetic processes is obscure, but the effect of the development of such processes would undoubtedly be to exercise a restraining control on the price of petrol and other materials. It should be borne in mind that the production of other fuels, by synthetic or other means, suitable for use in internal combustion engines, will have a similar effect in controlling prices. Neither for the production of synthetic alcohol nor for substitute hydrocarbon fuels can it be expected that a reliable statement as to costs will be available for a few years."

The evidence on which this view is based is summed up in one of the appendices, on "The Prospects of Alcohol Production by Synthetic Processes," which includes a section on the production of liquid fuels from coal. This forms a very up-to-date and concise summary of the present position in this field. In the summary it is stated that "so far as production of power alcohol in this country is concerned, the most hopeful processes not involving the distillation of fermented food-stuffs, are those from water-gas by leading steam over hot coke [compare the German production of methanol] and from wood by a method ensuring a high yield of fermentable sugar. These, however, are only in the experimental stage in this country, and their economic production has to be proved."

As regards the production of liquid fuels, not necessarily alcohols, reference is made to the work being done on the scientific treatment of coal. Of low-temperature carbonisation processes it is stated that "the commercial position is that there is no evidence to show that any scheme of low-temperature carbonisation can be worked on a large scale at a profit, though the contrary has not yet been proved. It will probably take at least two years to reach a definite conclusion as to whether any scheme can be run at a profit or what the loss would be. Even if such a scheme were a success it could not provide anything like all the heavy and light oil required in this country. Its value lies largely in other products." Of the Bergius process it is said that the experiments on the process are being conducted in Germany, but when these have reached a slightly more advanced stage there is a prospect that work on a larger scale may be undertaken here. This is the only process involving the direct treatment of coal from which it would be possible to produce all the supplies of oil needed in this country, but on the question of cost it is not yet possible even to venture an opinion. In view of the difficulty in the construction of plant, it is unlikely that any results yielding really commercial data could be available before, say, four or five years.

Low Temperature Carbonisation

New Scheme of Arrangement

A SCHEME of arrangement between the Low Temperature Carbonisation (Ltd.), Gas and Plants (Ltd.), and Barnsley Smokeless Fuel Company (Ltd.) came before Mr. Justice Eve, in the Chancery Division on Tuesday.

Mr. Gover, K.C., for the companies, said they were pioneers with regard to a process which undoubtedly had now proved itself, and was likely to become a commercial success. He gathered that the Government, which had been assisting research into low temperature carbonisation processes, were also of opinion that commercial success was likely in the near future. The petitioners did not get any of the Government money.

His Lordship: It is really pioneer work in which a great deal of capital has been sunk.

Mr. Gover said they were pioneers who had sunk all their money, and were just in sight of possible success, which would be entirely destroyed if the assets were sold to new people.

His Lordship said all the shareholders appeared to be willing to participate in the reduction of capital.

Mr. Gover: Every class of shareholder, and every class of creditor.

His Lordship: Your loss is, in round figures, a million pounds. How do you account for that?

Mr. Gover said all three companies had been closely allied in the research work which had been done. The scheme involved, first, the reduction of capital of the Low Temperature Carbonisation Company by cutting down various classes of shares in certain proportions; next, the subdivision of the resulting shares into sixpenny shares; then increasing the capital sufficient to more than cover the purposes of the scheme; and, finally, consolidating the new share capital into two shilling shares. The Carbonisation Company would also issue two new kinds of Debenture Stock—first, £150,000 Prior Lien Stock, and £300,000 Cumulative 8 per cent. Debenture Stock. The two other companies would be amalgamated with the Carbonisation Company. His Lordship sanctioned the scheme, and made no order on a petition presented by the Dursley Gas Light and Coke Company (Ltd.) for winding up Low Temperature Carbonisation (Ltd.), except that the latter company pay the costs of the petitioners.

Scientific Research in New Zealand

AT the conclusion of his visit to Australia to advise on the reorganisation of scientific research work in the Commonwealth, Sir Frank Heath has carried out investigations of a similar nature as regards New Zealand. His report has now been presented to the Dominion Government. Broadly, it follows the lines of his suggestions to the Federal Ministry, and the Premier of New Zealand (Mr. Coates) has announced that immediate steps will be taken to give effect to it. A new organisation is to be formed on the lines suggested by Sir F. Heath, based largely on the British department. With regard to secondary industries, Mr. Coates says that the main requirements are instruction and advice on technical matters. Provision will also be made for testing raw materials in various stages of manufacture. Whilst being unable to promise large grants for research in the immediate future, he was convinced that expenditure, particularly for primary industries, would prove an extremely profitable investment.

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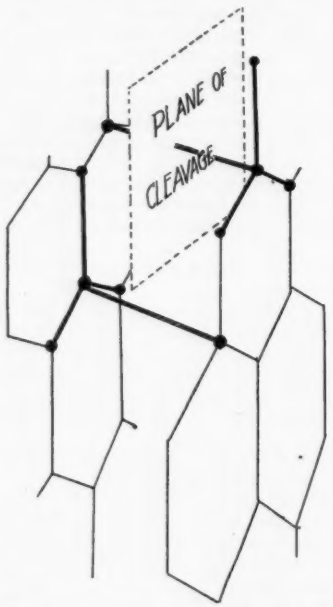
The Conquering Physicist

By Hugh Nicol, M.Sc.(Lond.), A.I.C.

SINCE Röntgen's truly epoch-making discovery in 1895, it has become quite clear that we are in a new era of thought. Röntgen's happy accident occurred at a time when physics, chemistry, metallurgy, and astrophysics were narrowly delimited, each to a very large extent independent of one another. Chemistry was rapidly acquiring an unwieldy mass of compounds which threatened to become altogether unmanageable, with small prospect of the science altering its character of a system of tabulated description combined with a resemblance to an art in the preparation of compounds; inorganic chemistry had little to offer, and that hybrid science, physical chemistry, was yet very young, scarcely able to withstand the attacks of the purists who are still with us to-day. The physicists were almost in despair: convinced that there were no more worlds to conquer, they were compelled



THE STRUCTURE OF GRAPHITE $(C_6)_n$

to consider a revision of existing measurements, although it was true that large fields were open, since much of the classical work had been unchallenged. The astronomer, his thoughts in cosmic space, had no relation with the beakers and flasks of the laboratory or with the prospecting geologist.

Barely thirty years have elapsed, and all is changed. A vast synthesis of the exact sciences is already apparent; neither the chemist, the geophysicist, nor the astronomer can afford to ignore the series of integral numbers that define all matter. The inconceivably little and the infinitely big are approximated, and the acumen of Sherlock Holmes, who dismissed as unimportant the relative motions of the solar system, receives a tribute from the work of Einstein, who has shown that it is of no consequence whether we regard the sun as going round the earth or the earth as revolving round the sun. Thus, our very habits of thought have been changed simultaneously with the laying bare of the intimate structure of matter.

The changes summarised in the import of atomic numbers are so recent that sufficient time has not elapsed for a true conspectus to be made. The confusing noise arising from the would-be explainers of relativity has hardly died away, and the specialists, such as spectroscopists and others to whom the theory is of direct and immediate interest, have been so intensely preoccupied with the new facts brought within their ken that they have not found time or energy for a broad consideration of what is of far greater importance than the exposition of relativity—its general consequences. Chemistry, astrophysics, relativity, radiology, are one, and no apology is needed for drawing upon any of these branches in the consideration of any of the others.

The chemist's carbon tetrahedron, his benzene ring, and the three forms of carbon are simply related. The unfolding of the relation between the abstraction of van 't Hoff's and Le Bel's carbon atom and the concrete crystal of diamond is due largely to Bragg and Debye, who have shown that the space-lattice of diamond is in fact a tetrahedron, while in graphite, three equivalent valencies are in one plane and the fourth is at right angles to them, with a longer "bond." The ensemble is a series of hexagons in the cleavage-planes, which are united comparatively feebly by the long valency of each carbon atom. "Amorphous" carbon is microcrystalline graphite. It may be said that in massive graphite, the cleavage-planes are polarised, while they lie in all directions in amorphous carbon.

The writer felt for some time that the spatial atom was merely an economy of thought and that the benzene ring, for instance, had no existence in reality. This, of course, touches upon metaphysics, but, practically speaking, the attitude is not now tenable and the existence of such forms seems hardly open to doubt. Debye goes further, and says that the tetrahedral carbon lattice is typical of aliphatic compounds, while the aromatic compounds would seem to be derived from graphitic carbon.

It appears as if the chemist is being dispossessed from his own sphere, although, as previously said, this is really only a matter of terms. The physicist tells us about the structure of the chemical elements, he analyses compounds spectroscopically (Hadding and Goldschmidt), and it is he and no longer the chemist who discovers new elements. No longer is the physicist content to study matter in the mass, letting the chemist evolve ingenious theories of the inner structure of matter while he bends a metal bar. There is hope, however; chemistry is very near to becoming a strictly mathematical science. The chemist is using an octet of electrons to explain reactions, and even the physiologist may yet find a rational theory of odour by their help. Röntgen, Planck, Rutherford, Moseley, and Einstein, amongst others, have abolished the possibility of a narrow view of philosophical science: the chemist must follow the spectral light.

Gas Fuel for Airships

WHAT is described as an "epoch-making discovery" of a gas fuel which is to replace petrol as fuel for airships has accompanied the announcement of the fact that a large Zeppelin is being built by Dr. Eckener at Friedrichshafen. The Zeppelin, which will be known as LZ 127, will carry five 420 horse-power Maybach engines adapted to the consumption of the new gas fuel. This gas is stated to have, roughly, the same specific gravity as air, and to produce 25 per cent. more heat per cubic metre than petrol per kilogram. Ethane would answer this description, and it is possible that ethane is the gas which has been "discovered." Some time ago two students of chemistry at Berlin, Schlumbohm and Peters, patented a scheme by which airships filled with helium could be made to ascend or descend by heating and cooling the helium electrically. They also proposed to Dr. Eckener to use gas fuel instead of liquid fuel. They now propose a scheme which would seem to be an advance on the one adopted for LZ 127. The scheme is to use not one gas with about the same specific gravity as air, but two—one lighter and one heavier than air. If the airship is to ascend then the engines would burn the heavier gas; if to descend they would burn the lighter. In airships filled with helium the two fuel gases would be stored inside the helium. As the gas could not explode except when mixed with air the danger of explosion, or of the airship catching fire, would be almost entirely eliminated, even in war.

New Oil Separator

FOLLOWING the recent international conference in Washington and the description by Dr. H. S. Hele-Shaw, the inventor, of a new type of oil separator before the Institution of Naval Architects in Antwerp, the Admiralty has placed an order for a Stream-Line separator to deal with 200 tons per hour under guarantee of less than one part of oil in 200,000 parts of water. It is to be fitted to a lighter for pumping oily bilge and ballast water from vessels using Devonport Harbour.

Chemical Matters in Parliament

Powdered Fuel

Brigadier-General Charteris (House of Commons, July 5) asked the Secretary for Mines whether any investigations had been made by the Government Research Department into the further utilisation of coal in the form of powdered fuel; and, if so, what had been the result of the investigations?

The President of the Board of Education (Lord Eustace Percy) replied that he had been asked to reply to this question on behalf of the Department of Scientific and Industrial Research. The utilisation of coal in the form of powdered fuel had been worked out by commercial firms, especially in America, and particulars were available from ordinary sources. No special investigations had therefore been carried out by the Department of Scientific and Industrial Research, but they had published a Report on "Pulverised Coal Systems in America," the third edition of which had been issued by His Majesty's Stationery Office early in 1924.

Mr. H. Williams then asked if the Department was aware that coal pulverisers were largely made in this country.

Indian Salt Tax

Mr. Scurr (House of Commons, July 12) asked the Under-Secretary of State for India whether his attention had been drawn to paragraph 179 of the report of the Taxation Inquiry Committee, which suggested the granting of a strictly temporary advantage to Indian salt manufacturers either by way of a rebate of duty or of the imposition of a preferential duty on imported salt; and whether it was the intention of the Government of India to give effect to either of these suggestions?

Earl Winterton replied that the committee considered that it was desirable that India should be made self-supporting in the matter of salt supply if this end could be secured by the means referred to, and that an inquiry would be made by the Tariff Board into this aspect of the question. The report of the committee was under the Government of India's consideration.

Coal Research

Rear-Admiral Sueter (House of Commons, July 12) asked the Prime Minister whether, in view of the fact that money prizes in every important country had played no small part in the development of aviation, he would consider the advisability of offering substantial money prizes for the most efficient and economical process for low-temperature carbonisation of coal, high-temperature carbonisation of coal, and the commercial utilisation of the by-products yielded by the respective processes, and, in view of the fact that we were very far behind other countries in using pulverised coal, if he would consider offering a substantial money prize for the best system for obtaining complete combustion of powdered coal, as the Department of Scientific and Industrial Research had expended £124,386 for the years 1924 and 1925 without lifting any of the existing processes from the experimental stage to be commercially practicable; and would he set up a small committee, the members having no connection with the coal industry, to get out conditions governing the award of the prizes, these prizes to be open to the scientists of the world, the committee to be formed on the lines of Lord Rayleigh's and Dr. Glazebrook's Advisory Committee on Aeronautics, which did sound reasoning and research work in helping aviation in the early days, and to be entirely independent of all existing coal-research organisations, and to have the first call on the resources of the National Physical Laboratory and the Department of Scientific and Industrial Research in making a really big attempt to restore prosperity to the coal industry?

Beet Sugar

Mr. Duckworth (House of Commons, July 13) asked the Minister of Agriculture if he could state the percentage of sugar unextracted from the beets handled by British sugar factories; and how this figure compared with the percentage of sugar unextracted by the sugar-beet industry in the United States?

Mr. Guinness replied that in the case of the United States he was informed that the percentage of recovery of sugar to the total sucrose in the beets was 84·75 in the period 1914-20 and 86·21 in 1924. In view of the fact that the sugar-beet factories in this country were mostly in their first or second year of working he did not think that a fair comparison could be made between their average results and those of the old-established factories in the United States. He was not in a position to publish the results obtained by individual factories.

Sir W. de Frece asked the Chancellor of the Exchequer the amount of subsidy paid in 1925-26 to the British sugar-beet factories?

Mr. Guinness said he had been asked to reply. The total subsidy paid to date in respect of home-grown beet-sugar and molasses produced during the 1925-26 manufacturing season was £1,092,365 4s. 5d.

Royal Visit to London Gasworks

King and Queen at Beckton

THE King, who was accompanied by the Queen, visited the Beckton works of the Gas Light and Coke Co. on Saturday, July 10, and opened the largest coal unloading plant in Europe. The works are situated on the north side of the Thames opposite Woolwich, and the opening ceremony took place on a pier by the river side. Pulling a lever His Majesty set the huge plant in motion. Grabs, each carrying 3½ tons, fitted to towering electric travelling cranes, delivered coal from a boat into hoppers, from which moving belts with a carrying capacity of 1,000 and 2,000 tons per hour conveyed it rapidly to storage bunkers on the shore.

Their Majesties were received by Dr. D. Milne Watson, Governor of the Gas Light and Coke Co. Travelling in a saloon carriage attached to a small engine on the railway system which connects the works with the riverside, their Majesties proceeded to the pier, where a platform had been specially constructed for the purpose of the ceremony.

Mr. MILNE WATSON, in a brief address, referred to the history of the company, which was founded 114 years ago by a charter granted by King George III. It was, he said, the oldest gas company in the world and now the largest. "An industry," he added, "founded so long ago can only keep its place in the world by developing with the times and applying the discoveries of science and adopting modern improvements. This new coal handling plant is capable of unloading 2,000 tons an hour and is the largest coal unloading plant in Europe." The King said: "I am very glad to visit these old-established gas works at Beckton and to inaugurate the important addition to the plant, for I realise how essential the gas industry is to the daily life of the community." His Majesty then pulled a small lever and there was an immediate response in the different sections of the plant, the cranes, each capable of unloading coal at a rate of over four tons a minute, became active, and the coal-carrying belts started, linking the storage bunkers on shore with boats at the riverside.

A Tour Round the Works

After the ceremony the King and Queen spent nearly two hours inspecting sections of the works. They made their tour on the railway system which winds among gas-holders, retort houses, and other departments for a distance of 60 miles. Their Majesties watched the coal being delivered by the unloading plant to the storage hoppers, which have a capacity of 6,000 tons. They saw how, from six railway tracks beneath the hopper, the coal is conveyed over an elevated railway to retort houses or stored under the railway, where there is room for 250,000 tons of coal. It was noticed that there was not that quantity available at the moment.

The Gas Light and Coke Co. carbonises 2½ million tons of coal a year. In addition to the gas this yields great quantities of residual products, including 1,850,000 tons of coke and 20,000 tons of sulphate of ammonia. Of the companies' make of tar (24 million gallons), ammoniacal liquor (70 million gallons), sulphur, crude benzol and cyanogen, the greater part is dealt with at the Beckton chemical works. Among the products of the works are:—6 million gallons of road tar, 50 to 60 thousand tons of pitch, 5 million gallons of creosote, 1¼ million gallons of motor spirit, pure toluol and solvent naphtha for the rubber industries, naphthalene (for dyestuffs, etc.), pyridine (for denaturing alcohol), phenol, β-naphthol (capacity of plant 800 to 1,000 tons a year), and bleaching powder (as a by-product of the manufacture of naphthol).

From Week to Week

CONSIDERABLE DAMAGE was caused by a fire which broke out on Thursday, July 8, at Critchley Brothers' Dyeworks, Brindleheath, Pendleton. The cause of the fire is unknown.

A QUANTITY OF ETHER AND SODA was recently destroyed by fire at a chemical works in Ash Grove, Hackney, when "fire snow" extincteurs were effectively used in coping with the outbreak.

PROFESSOR W. SADLER, of the division of milk chemistry in the University of British Columbia, has received from the International Educational Board a sum of 2,000 dollars for the purpose of study travel in Europe.

DR. PIETRKOWSKI HAS BEEN ELECTED chairman of the German Verein zur Wahrung der Interessen der chemischen Industrie Deutschlands (Union for the Support of German Chemical Industry) in place of the late Dr. Frank.

MR. A. M. JACOBS, M.A.I.E.E., Electricity Commissioner, Union of South Africa, has arrived in this country for a fairly extensive visit, and his address during his stay will be: c/o International Combustion, Ltd., Africa House, Kingsway, London, W.C.2.

THE MESSEL MEMORIAL LECTURE, to be delivered by the Earl of Balfour at the Mansion House, London, on Monday, July 19, at 2.30, on the occasion of the presentation to him of the Messel Memorial Medal of the Society of Chemical Industry, will be broadcast.

IN THE SWEDISH PULP INDUSTRY a factor of increasing importance is the recent increase in the manufacture of artificial silk. During 1925 some 40,000 tons, or one-third of the world's total demand for raw material for the artificial silk industry, was supplied by Sweden.

STATEMENTS REGARDING AN INTERNATIONAL TUBE SYNDICATE are, states a Berlin message, premature, the discussions with English representatives having failed. The conversations concerning an international raw steel union are to proceed, as at present the outlook seems favourable.

DR. L. MICHAELIS, professor of the application of physical chemistry to medicine in the University of Berlin, and for some years professor of biochemistry in the University of Nagoya, Japan, has accepted a call to the chair of medical research in the Johns Hopkins University.

MR. E. R. HARRIS, a student at the University College of the South-West, has been awarded half of the prize for an essay on "The trend of modern organic chemistry," offered under an essay scheme for local registered students by the Institute of Chemistry in this area, of which Sir Ernest Cook is president.

A MERGER between the important explosive firm, Koeln-Rottweil and the Dyestuffs Trust is reported. It is said that the consent of all British and American shareholders in Koeln-Rottweil has been secured. Other firms in the explosive industry, including Dynamite-Nobel and Siegener Dynamite Works, are establishing close connections with the Dyestuffs Trust.

IN THE ANNUAL REPORT of the British Empire Cancer Campaign, issued on Tuesday, it is stated that a number of experiments have been made to investigate "dyeworker's cancer" and to discover, if possible, the nature of the deleterious substances and how they are absorbed into the human system during the manufacturing processes. Very important experiments have also been made into the cancer producing properties of certain of the heavy mineral oils used in industrial methods.

SENIOR STUDENTSHIPS AND OVERSEAS SCHOLARSHIPS have been awarded by the Royal Commissioners for the Exhibition of 1851 to the following among others: Senior Studentships.—A. J. Bradley (Manchester University), crystallography; H. J. Emeléus (Imperial College of Science and Technology), inorganic chemistry; R. G. J. Fraser (Aberdeen University), physics and chemistry; C. W. Shoppee (Leeds University), organic chemistry. Overseas Scholarships.—F. H. Yorston (McGill University, Montreal), organic chemistry; J. R. Vickery (Melbourne University), biochemistry.

THE TRUSTEES OF THE BEIT MEMORIAL FELLOWSHIPS for medical research have elected the following to fellowships: senior fellowship—Mr. E. B. Verney; fourth year fellowships—Mr. W. K. Slater, Mr. H. J. Channon, and Mr. J. M. H. Campbell; junior fellowships—Mr. R. J. Lythgoe, at the Department of Physiology, University College, London, Dr. F. M. Burnet, at the Lister Institute, Mr. J. G. H. Frew, at the Research Hospital, Cambridge, Dr. M. W. Goldblatt, at the Dunn Laboratory, St. Thomas's Hospital, Mr. J. T. Irving, at the Biochemical Department, Oxford, Mr. J. G. Stephens, at the Physiological Laboratory, Cambridge, and Mr. B. Woolf, at the Sir William Dunn Institute of Biochemistry, Cambridge. Lord Clarendon was elected a trustee, in place of Lord Irwin (Mr. E. Wood, M.P.), now Viceroy and Governor-General of India.

THE INCREASED USE OF FERTILISERS is a current feature in Rhodesian farming methods.

MR. SAMUEL ANDREWS has been appointed J. C. White Lecturer in Chemistry, at Queen's University, Belfast.

SEVERAL MATCH FACTORIES were destroyed in a disastrous fire which destroyed a large number of factories and mills at Aomori, in Japan.

THE DEVELOPMENT OF CANDLE, SOAP, FERTILISER AND DYE manufacturing industries, locally, has resulted in increased chemical imports into Greece.

THE AMERICAN HARRIMAN GROUP has purchased the Giesche zinc mines in Polish Upper Silesia. The purchase price is £2,000,000, and a further £2,000,000 will be furnished by the group for various purposes.

A CARGO OF BENZINE being carried on the small steamer *Kooringa* to Tasmania from Melbourne caught fire, and the benzine blazed furiously. The crew abandoned the ship, one member being seriously burned.

THE UNITED STATES NAVY AMMUNITION DEPOT, at Lake Denmark, New Jersey, the largest of its kind in the world, was completely destroyed on Saturday, July 10, by a series of explosions started by lightning striking a magazine stored with T.N.T.

IN A SERIES OF VISITS to the Oxo factory, in Southwark Bridge Road, delegates at the Royal Sanitary Institute Congress were shown over the model factory and laboratories, and on one occasion the Laboratory Director, Dr. Salway, described to them the manufacture of oxoids.

RECENT WILLS INCLUDE: Mr. Michael Simm, of Gateshead Durham, charcoal manufacturer, £13,402; Mr. Willam Stephenson, of Stanwig, Carlisle, representative of Billington and Son, sugar, refiners, Liverpool, £3,046; Mr. Andrew Thomas Smith, J.P., of Croxteth Drive, Liverpool, managing director of the Castner-Kellner Alkali Co., Ltd., and a director of Brunner, Mond and Co., Ltd., Electric Bleach and By-Products, Ltd., and Synthetic Ammonia and Nitrates, Ltd., who died on April 1, left estate of the gross value of £23,937, with net personalty £21,668. He left £250 to Edward Gaines Williams and £100 each to David Davies and John Burns, if in the employ of the Castner-Kellner Alkali Co.

THE BELFAST AND DISTRICT SECTION of the Institute of Chemistry of Great Britain and Ireland brought their session to a close with the annual general meeting, when the chair was occupied by Prof. G. Scott Robertson, of the Department of Agricultural Chemistry at Queen's University. The chairman announced his resignation and that of Mrs. N. I. Bell, hon. treasurer, and Mr. William Honneyman, B.Sc., F.I.C., hon. secretary. The following officers were elected for next session:—Chairman, Dr. W. H. Gibson, O.B.E., F.I.C.; hon. treasurer, Mr. William Honneyman; hon. secretary, Mr. G. Thompson, M.Sc., A.I.C. The Belfast section has been very active in its endeavour to maintain the professional status of the chemist at a high level, and the attention of students of chemistry is called to the importance of attaining the qualifications granted by the institute.

APPLICATIONS ARE INVITED for the following appointments: Temporary assistant chemist at the Naval Ordnance Inspection Depot, Holton Heath. Experience in explosives preferable. £180 plus Civil Service bonus (present value £285). The Secretary of the Admiralty (C.E. Branch), July 24.—Research scholarships tenable in the Technical College, Huddersfield; Joseph Blamires Research Scholarship in Colour Chemistry; and the Drapers' Company Research Scholarship tenable in the Dyeing Department. Value £100 each, with remission of fees. The Principal.—Research chemist for work on plaster and other materials used for impressions and models in dentistry. About £500. The Secretary, Department of Scientific and Industrial Research, 16, Old Queen Street, Westminster, London, S.W.1. July 21.—Temporary assistant chemists, at least B.Sc. Second Class Honours or equivalent. Men £160—£10—£220, women £140—£10—£180, both plus Civil Service bonus. The Government Chemist, Clement's Inn Passage, London, W.C.2.—Chemical pathologist and lecturer on chemical pathology in the St. Bartholomew's Hospital and Medical College. The Dean of the Medical College, or Thomas Haynes, Clerk to the Governors. August 16.

Obituary

MISS GERTRUDE BELL, eldest daughter of Sir Hugh Bell. She was well known as an Oriental scholar and administrator.

PROFESSOR C. POMERANZ, aged 66, who was professor of experimental and agricultural chemistry in the High School for Soil Study in Vienna.

MR. HARRY LE MARCHANT, at his residence at Kenley, Surrey. He was one of the founders of Martin Earle and Co., which in 1912 amalgamated with the British Portland Cement Company, now incorporated in the Associated Portland Cement Company, and remained closely associated with these firms until his retirement, two years ago.

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OXIDATION.—Oxidations with fluorine. Parts IV and V. F. Fichter and K. Humpert. *Helv. Chim. Acta*, July, 1926, pp. 602-611 and 692-697.

RUBBER.—Isoprene and rubber. Part IX—Formation of cyclo-rubber from rubber hydrohalides. Part X—Behaviour of rubber on heating. H. Staudinger. *Helv. Chim. Acta*, July, 1926, pp. 529-557.

Patent Literature

The following information is prepared from published Patent Specifications and from the Illustrated Official Journal (Patents) by permission of the Controller to H.M. Stationery Office. Printed copies of full Patent Specifications accepted may be obtained from the Patent Office, 25, Southampton Buildings, London, W.C.2, at 1s. each

Abstracts of Complete Specifications

253,163. Benzanthrone Derivatives, Manufacture of. British Alizarine Co., Ltd., J. Anderson, and W. H. Dawson, Westinghouse Road, Trafford Park, Manchester. Application date, February 10, 1925.

Benzanthrone and its derivatives such as violanthrone or isoviolanthrone are chlorinated by means of a soluble chlorate and hydrochloric acid in cold aqueous solution. The raw material may be dissolved in concentrated sulphuric acid, precipitated by water, and the suspension treated with sodium chlorate and hydrochloric acid.

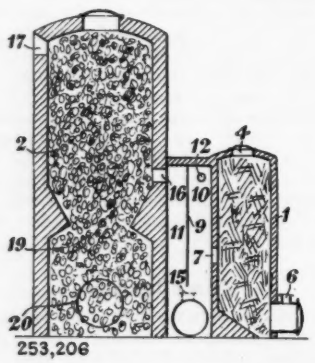
253,197. Vulcanisation of Rubber. British Dyestuffs Corporation, Ltd., 70, Spring Gardens, Manchester. C. J. T. Cronshaw and W. J. S. Naunton, Crumpsall Vale Chemical Works, Blackley, Manchester. Application date, March 12, 1925.

The di-xylyl-guanidines, especially the three di-meta-xylyl-guanidines, are used as accelerators of vulcanisation. They may be made as described in specification 223,410. (See The Chemical Age, Vol. XI, p. 530.)

253,206. Carbonisation of Wood. H. Strache, 15, Theobaldgasse, Vienna VI, and G. Polcich, 82, Speisingerstrasse, Vienna XIII. Application date, March 13, 1925.

The object is to obtain a compact charcoal, free from sulphur and phosphorus, suitable for use in metallurgy. It has been found that the texture of the wood is not destroyed in carbonising if used in pieces of 5—20 cm. in size. The hardness is increased by carbonising above 600° C., and the charcoal is cooled in an atmosphere of hydrocarbons. The product may be impregnated with tar separated during the carbonisation, and again heated.

The heating gases are generated in a furnace 1 arranged close to the carbonising shaft 2, and having a charging opening



253,206

4 and air-blast inlet 6. The gas passes through an opening 7 into a shaft divided by a partition 9 and is burnt in the chamber 10 with air introduced at 12. The hot gases then pass upwards through chamber 11, and are cooled if necessary by neutral gases blown in at 15. The gas then passes through opening 16 into the charge of wood 2, and finally escapes at 17. The charcoal passes downwards into the cooling chamber 19 and is withdrawn at 20. The gases are passed through a tar separator and may be introduced at 15, or at 20 to cool the charcoal. In an alternative form, the furnace 1 may be arranged centrally within the chamber 2.

253,311. Vat Dyestuffs of the Perylene Series, Manufacture of. O. Y. Imray, London. From Farbwerke vorm. Meister, Lucius, & Brüning, Hoechst-on-Main, Germany. Application date, April 28, 1925.

These dyestuffs are obtained by heating an oxidation product of a vat dyestuff of the dibenzanthrone series with an acid condensing agent such as aluminium chloride or zinc chloride, and alkylating the product. In an example, an oxidation product of dibenzanthrone is heated with anhydrous zinc chloride, boiled with water, and then heated with nitrobenzene, soda, and paratoluene-sulphonic-acid methyl-ester. The solution is filtered, and forms blue-violet crystals which forms a violet vat and gives violet shades on cotton, becoming blue on exposure to air.

253,344. Sulphuric Acid from Sulphur Dioxide-containing Gases, Process for the Production of. Metal Traders Technical, Ltd., 7, Gracechurch Street, London, E.C.3. From Metallbank und Metallurgische Ges. Akt.-Ges., 45, Bockenheimer Anlage, Frankfort-on-Main, Germany. Application date, May 21, 1925.

The gases containing sulphur dioxide are charged with the maximum of nitrogen-oxygen compounds by mixing with them sulphuric acid-containing nitrogen-oxygen compounds containing the latter in high proportion. This high proportion is maintained by separating the sulphuric acid free from nitrogen-oxygen compounds by an electrostatic field. The concentration of the sulphuric acid is not allowed to rise above 54° Bé. to prevent absorption of nitrogen-oxygen compounds.

253,377. Polyazo Dyestuffs, Manufacture of, A. G. Bloxam, London. From Chemische Fabrik Griesheim-Elektron, Offenbach-on-Main and Frankfort-on-Main, Germany. Application date, July 20, 1925.

These dyestuffs are obtained by the combination of one molecule of a tetrazo compound in mineral acid solution with one molecule of 1:8-aminonaphthol-3:6-disulphonic acid, and the subsequent combination of the intermediate compound thus obtained with a mono-diazo compound and 1:8- or 1:5-naphthylene-diamine. The latter may be combined in either order. These dyestuffs give bluish-black shades on mixed cotton and woollen fabrics. Some examples are given.

253,386. Anthraquinone Derivatives, Manufacture of. J. Y. Johnson, London. From Badische Anilin and Soda Fabrik, Ludwigshafen-on-Rhine, Germany. Application date, August 12, 1925.

1-amino-2-anthraquinone-aldehyde or a halogen derivative is treated with a cuprous halogenide in the presence of water and preferably in the absence of chlor ions other than those of cuprous halogenides, to obtain 1 : 1¹-dianthraquinonyl-2 : 2¹-dialdehyde and its halogen derivatives. Examples are given of the application of the process to 1-amino-2-anthraquinone-aldehyde and 4-chlor-1-amino-2-anthraquinone-aldehyde, the latter being obtained by treating 4-chlor-1-amino-2-methyl-anthraquinone with nitrosyl chloride and then treating the resulting 4-chlor-1-azido-2-anthraquinone-aldehyde with alkaline sodium hydrosulphite.

253,457. Monoazo Dyestuffs, Manufacture of. W. Carpmael, London. From Farbenfabriken vorm. F. Bayer and Co., Leverkusen, near Cologne, Germany. Application date, June 29, 1925.

These monoazo dyestuffs are obtained by coupling a diazo compound of an aromatic amine or a substitution product with an ω-aminoalkyl-2-aminonaphthalene or a derivative. ω-aminoalkyl-2-aminonaphthalenes are described in specification 249,717 (see The Chemical Age, Vol. XIV, p. 443) and ω-aminoalkyl-2-aminonaphthalene sulphonic acids are described in specification 230,457 (see The Chemical Age, Vol. XII, p. 508). Several examples are given.

Note.—Abstracts of the following specifications which are now accepted, appeared in The Chemical Age when they became open to inspection under the International Convention :—231,157 and 231,461 (Benzonaftene), relating to treatment of heavy hydrocarbons to obtain combustible gas, light hydrocarbons, etc., see Vol. XII, pp. 537 and 590; 231,532 (Farbenfabriken vorm. F. Bayer and Co.), relating to dyestuffs of the anthraquinone series, see Vol. XII, p. 590; 232,230 (Farbwerke vorm. Meister, Lucius, and Brüning), relating to indigoid dyestuffs containing sulphur, see Vol. XII, p. 617; 232,930 (Aktieselskapet Norsk Aluminium Co.), relating to

production of iron from ores, see Vol. XIII, p. 7 (Metallurgical Section); 234,806 (Chemische Fabrik auf Actien (vorm. E. Schering)), relating to amino metal mercapto acids or salts, see Vol. XIII, p. 133; 237,228 (G. W. Freiberg), relating to production of acetone and butyl alcohol, see Vol. XIII, p. 307; 240,407 (Naugatuck Chemical Co.), relating to deterioration retarders for rubber, see Vol. XIII, p. 581; 244,774 (L. W. Heffner and W. Tiddy), relating to recovery of phenol from gas liquor, etc., see Vol. XIV, p. 211; 245,473 (Chemische Fabrik auf Actien (vorm. E. Schering)), relating to aluminium ethylate, see Vol. XIV, p. 254.

International Specifications not yet Accepted

251,264. Hydrogenating Coal, Oils, Tars, etc. I. G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. International Convention date, April 25, 1925. Addition to 247,583.

Specifications 247,583, 247,586 and 249,501 (see The Chemical Age, Vol. XIV, pp. 461–2 and 550) describe the production of liquid hydrocarbons by treating coal, mineral oils, tars, resins, bitumens, etc., with hydrogen or gases containing it. In this invention, tungsten, chromium, or their compounds, are used as catalysts, with or without molybdenum, cobalt, nickel, iron, copper, silver, aluminium hydroxide, magnesia, zinc oxide, or potassium carbonate. Thus, petroleum residue is treated with hydrogen at 200 atmospheres and 450°–500° C. in presence of tungstic acid; and brown coal producer tar is treated with a mixture of nitrogen and hydrogen in presence of chromium hydroxide.

251,266. Dyes. Soc. of Chemical Industry in Basle, Switzerland. International Convention date, April 25, 1925.

A higher yield of the dyestuffs obtained as described in specification 214,629 (see The Chemical Age, Vol. X, p. 681), by treating with reducing agents the dyestuffs derived by coupling the nitrated diazo compound of 1-amino-2-oxynaphthalene-4-sulphonic acid with a naphthol, can be secured if the reduction is effected in presence of an organic compound such as a carbohydrate, *e.g.*, glucose, an alcohol such as glycerine or glycol, or tannin, gallic acid or sulphite cellulose lye. The zinc compounds are good mordant dyestuffs.

251,267. Chromium Compounds. I. G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. Assignees of Farbwerke vorm. Meister, Lucius, and Brüning, Hoechst-on-Main, Germany. International Convention date, April 24, 1925.

To obtain soluble double salts suitable for tanning, a neutral chromium salt is mixed with a salt of calcium, magnesium, zinc or aluminium; or chromium hydroxide is mixed with the other salt or oxide and with acid; or an acid chromium salt solution is mixed with an oxide or oxides. Examples are given.

251,270. Hydrocarbons. I. G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. Assignees of Farbwerke vorm. Meister, Lucius, and Brüning, Hoechst-on-Main, Germany. International Convention date, April 24, 1925.

To obtain cyclic hydrocarbons, the vapours of diaryl ketones or aryl-alkyl-ketones containing a methyl group or a methylene group in the *o*-position to the carbonyl group, are passed over contact material such as silica gel, alumina gel, or active charcoal. Examples are given of the production of 2-methyl-anthracene from benzoyl-*m*-xylene, 1 : 3 : 6-trimethylanthracene from 1 : 3 : 1¹ : 3¹-tetramethyl-benzophenone, 1 : 2-benzanthracene from *o*-tolyl-α-naphthylketone, 6-methyl-1 : 2-benzanthracene from α- or β-naphthoyl-*m*-xylene, 1 : 2 : 7 : 8-dibenzanthracene from 2-methyl-1 : 1¹-dinaphthylketone, and a mixture of 2-methylanthracene and 2-chlor-7-methylanthracene from *p*-chlorbenzoyl-*m*-xylene. The ketones employed are obtained by the action of acid chlorides on benzene, naphthalene, etc., in presence of aluminium chloride.

251,293. Dyes. Farbwerke vorm. Meister, Lucius, and Brüning, Hoechst-on-Main, Germany. International Convention date, April 9, 1924.

Thioindigoid dyes are obtained, according to an example, by condensing 3-acetyl-oxythionaphthene or 5 : 6-benzo-3-acetyl-oxythionaphthene with 5-chlor-7-methyl-2 : 3-diketo-dihydro-2-(*p*-dimethylamino)-anil. These give bluish-red and violet shades on cotton.

251,294. Synthetic Tanning Agents. I. G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. Assignees of Farbwerke vorm. Meister, Lucius, and Brüning, Hoechst-on-Main, Germany. International Convention date, April 23, 1925.

Tanning and emulsifying agents are obtained by condensing aromatic oxyalcohols or their derivatives with aromatic sulphonic acids or their derivatives. Thus, naphthalene is sulphonated and the product treated with a mixture of oxybenzyl alcohols, with or without other alcohols such as isopropyl alcohol, or benzyl chloride.

251,303. Solutions of Organic Substances. I. G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. International Convention date, April 24, 1925.

Cellulose derivatives, resins, waxes, dyestuffs, rubber, fats, oils, soaps, etc., are dissolved with the aid of mono-aryl ethers of glycols or the esters of organic acids with mono-alkyl or alkyl ethers of ethylene glycol or its homologues. Other solvents may be added such as low-boiling hydrocarbons of the aliphatic hydro-aromatic or aromatic series such as benzene, toluene, etc., or aliphatic alcohols such as ethyl, isopropyl, butyl or isobutyl, also plasticisers such as camphor, castor oil, phenol phosphoric acid esters, ethyl phthalate, etc. Examples are given of the preparation of solutions of pyroxylin, cellulose acetate, cellulose ethers, and rubber.

251,637. Dyes. I. G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. Assignees of Farbenfabriken vorm. F. Bayer and Co., Leverkusen, near Cologne, Germany. International Convention date, April 28, 1925.

In an example of the production of disazo dyes, 4-aminophthalic acid is diazotised, coupled with α-naphthylamine-6-sulphonic acid, rediazotised, and coupled with *m*-cresotinic acid. In another example, 3-amino-5-sulpho-2-oxybenzoic acid is diazotised, coupled with α-naphthylamine-6-sulphonic acid, rediazotised, and coupled with salicylic acid.

251,644. Dyes. Soc. Anon. Durand et Huguenin, Hüningen, France. International Convention date, May 4, 1925.

To obtain acid dyes of the rhodamine series, an aryl-*m*-aminophenol is condensed with phthalic anhydride or a substitution product in presence of a sulphonating agent. The formation and sulphonation of the dyestuff take place in one operation. Examples are given.

Latest Notifications.

254,676. Process for the continuous purification of crude carbon disulphide. Legeler, Dr. E., and Esselmann, Dr. P. July 6, 1925.

254,679. Manufacture of articles from molten carbon. I. G. Farbenindustrie Akt.-Ges. June 30, 1925.

254,691. Process for desulphurising fine pyrites. Metallbank und Metallurgische Ges. July 4, 1925.

254,708. Manufacture of new azo-dyestuffs and chromium derivatives thereof. Soc. of Chemical Industry in Basle. July 3, 1925.

254,726. Process of producing active silicic acid. Ring Ges. Chemischer Unternehmungen. July 1, 1925.

254,729. Method of producing dextrose from starch-bearing materials. Corn Products Refining Co. January 17, 1925.

254,742. Manufacture of vat-dyestuffs containing nitrogen. I. G. Farbenindustrie Akt.-Ges. July 2, 1925.

254,743. Manufacture of hexa-substituted thioindigos. I. G. Farbenindustrie Akt.-Ges. July 2, 1925.

254,747. Method of stabilising hydrocyanic acid. Deutsche Gold- und Silberscheideanstalt Vormals Roessler. July 3, 1925.

254,753. Process for the manufacture of alkylated phenols and their hydrogenated products. Chemische Fabrik auf Actien (vorm. E. Schering). July 4, 1925.

Specifications Accepted with Date of Application

228,185. Phosphoric acid, Production of. Victor Chemical Works. January 23, 1924.

230,441. Gases from the combustion of sulphur, Production of. L. F. Pollain. March 6, 1924.

231,203. Metallurgical furnaces. A. Helfenstein and Helfenstein-Elektro-Ofen Ges. March 24, 1925.

234,826. Sulphide ores or metallurgical products, Treatment of. F. Krupp Grusonwerk Akt. Ges. May 30, 1924.

235,181. Synthetic production of hydrogen cyanide. Norsk Hydro-Elektrisk Kvaelstofaktieselskab. June 3, 1924.

235,867. Metaldehyde, Process for preparing. Elektrizitätswerk Lonza. June 23, 1924.

238,215. Crystallising solid substances from their solutions. Soc. des Condenseurs Delas. August 6, 1924.

238,246. Agglomeration of fine ores, roasted pyrites, coke smalls, etc., for smelting. Bruck, Kretschel & Co. and O. Kippe. August 8, 1924.
240,859. 1 : 4 : 5 : 8-naphthalene-tetracarboxylic acid, Manufacture of. October 2, 1924.
253,984. Controlling chemical reactions. British Thomson-Houston Co., Ltd., H. W. H. Warren, R. Newbound, and L. M. T. Bell. March 20, 1925.
254,011. Conversion of crude mineral or shale oil or tar oils into light oil or spirit, and preparation of light oil or spirit from coal, lignite, or other carbonaceous material. E. Schultz. March 25, 1925.
254,021. Benzanthrone derivatives, Manufacture of. A. J. Ransford. (*L. Cassella and Co. Ges.*) March 27, 1925.
254,050. Magnesium and other metals from their chlorides, Manufacture of, C. Arnold. (*Dow Chemical Co.*) May 7, 1925.
254,086. Arsenic compounds of the aromatic series. A. J. Ransford. (*L. Cassella and Co. Ges.*) June 9, 1925.
254,115. Distilling bituminous materials. G. Pritzbuer. July 24, 1925.
254,163. Electrolytic decomposition of alkali metal chloride solutions. Konigsberger Zellstofffabriken und Chemische werke Koholyt Akt.-Ges. and E. Schlumberger. October 24, 1925.
254,204. Amino-oxy compounds of the aromatic series, Producing by electrolysis. H. E. Potts (*Chemische Fabrik Gouvan Landshof and Meyer Akt.-Ges.*)

Applications for Patents

Brightmore, J. Fixation of atmospheric nitrogen. 16,924. July 6.
British Dyestuffs Corporation, Ltd., Hailwood, A. J., and Shepherdson, A. Manufacture of vat dyes, etc. 17,028. July 7.
Brown, R. S. Manufacture of composite titanium pigments. 17,123. July 8.
Burgess Laboratories, Inc., C. F. Production of oxidised carbon. 17,023. July 7. (United States, July 7, 1925.)
Carbide and Carbon Chemicals Corporation. Manufacture of glycols. 16,840. July 5. (United States, January 7.)
Carpmael, W., and I. G. Farbenindustrie Akt.-Ges. Manufacture of dinaphthyldicarboxylic acids. 16,931. July 6.
Carpmael, W., and I. G. Farbenindustrie Akt.-Ges. Drying gases, etc. 16,932. July 6.
Carpmael, W., and I. G. Farbenindustrie Akt.-Ges. Manufacture of 4-hydroxy-3-acetaminoaryl-1-arsonic acids, etc. 17,070. July 7.
Chemische Fabrik auf Actien vorm. E. Schering. Manufacture of alkylated phenols, etc. 16,828. July 5. (Germany, July 4, 1925.)
Chemische Fabrik auf Actien vorm. E. Schering. Manufacture of lactic acid esters. 17,044. July 7. (Germany, August 7, 1925.)
Compagnie Générale des Produits Chimiques de Louvres and Pipereaut, P. Manufacture of chromates, etc. 17,145. July 8. (France, July 8, 1925.)
Durand and Huguenin Akt.-Ges. Manufacture of mordant dyestuffs. 17,163. July 8. (Germany, July 13, 1925.)
Edwards, A. H. Extraction of copper carbonate. 17,162. July 8.
Everest, A. E., Leitch and Co., Ltd., J. W., and Wallwork, J. A. Dyeing silk by means of ice colours. 17,181. July 8.
General Motors Corporation. Electrolytic deposition of chromium. 16,941. July 6. (United States, July 6, 1925.)
I. G. Farbenindustrie Akt.-Ges. Manufacture of azo-dyestuffs. 17,039. July 7. (Germany, July 7, 1925.)
I. G. Farbenindustrie Akt.-Ges. Manufacture of chromium-magnesium preparations for tanning. 17,164. July 8. (Germany, July 10, 1925.)
I. G. Farbenindustrie Akt.-Ges. Silver halide emulsion, etc. 17,165. July 8. (Germany, July 25, 1925.)
International Sugar and Alcohol Co., Ltd. (Soc. Anon. La Cellulose). Saccharification of wood. 17,245. July 9.
Klein, C. A. Utilisation of waste acid liquors. 17,122. July 8.
Klein, C. A. Manufacture of composite titanium pigments. 17,123. July 8.
May and Baker, Ltd. Manufacture of compounds of arsenic or antimony. 17,155, 17,156. July 8.
Small, G. G. Preparation of activated decolorising carbon, etc. 16,784. July 5.

Produce and Chemical Co., Ltd.

On Tuesday in the Companies Winding-Up Court Mr. Justice Eve had before him a petition by creditors for the compulsory winding-up of the Produce and Chemical Co., Ltd. Counsel mentioned that the matter had been adjourned for a month as it was said they could find the money, but they had not found the money and he asked for an order. A gentleman in court said the money could be found this week. His lordship said that had been said before. The petitioners were entitled to the order they asked for, and an order would be made for compulsory winding-up.

Modern Concrete Practice

"The Making and Testing of Portland Cement and Concrete" (published by G. and T. Earle, Ltd., 10s.) provides concrete users with a valuable reference book. It embodies the results of more than a century's experience of a firm which, to judge by the record of tests included, has carried out its work scientifically and with observation. The book is up-to-date as regards cement and concrete manufacture. It contains, for instance, what might be described as the first annotated edition of the 1925 British Standard Specification. The various sections are set out with explanatory notes and results of tests. Illustrating the latter is a useful chart showing the influence of temperature on setting time.

In a comprehensive chapter dealing with the making of concrete, an important point is raised which might be noted with advantage by those who work by "rule of thumb." Like some other British manufacturers, Messrs. Earle make their cement to a higher standard than required by the 1925 specification. This means, of course, that a maker of concrete might save considerably by using a less quantity of cement than would be necessary with foreign cement, which often fails to satisfy even the minimum requirement. "Too often," it is stated, "the strength of the cement is not taken into account when the proportion to be used is decided. It is disappointing to a manufacturer who consistently makes cement to a higher standard than the British Standard Specification to find that the same amount of his cement is used as in the case of a cement which just passes this specification." Many readers will be surprised by the thoroughness with which concrete is tested to-day, and also by the immense progress in concrete practice during recent years. In the matter of compression, a series of tables gives the results of over 160 tests. These will be a useful guide to any maker of concrete. Tests of the "abrasion value" of concrete are also recorded. This test is common in America where concrete roads are now adopted almost universally; but it is also becoming increasingly used in this country as the value of the concrete road is being more and more appreciated.

Frederick S. Spiers Memorial

Many friends and associates of the late Mr. Frederick S. Spiers are desirous of establishing a memorial which will serve to remind future generations of the valuable services he gave to science and the humanities, and which will provide an opportunity for those who knew him to express their personal appreciation of his work. It has been suggested that this should take the form of a memorial lecture to be paid for out of the interest on the fund, and to be given at intervals, to be decided later, under the auspices of the Faraday Society.

A committee to promote this appeal has been formed and the following have consented to serve on it:—Inst. Comdr. T. Y. Baker, R.N.; Mr. J. E. Barnard, F.R.S.; Sir W. H. Bragg, K.B.E., F.R.S. (chairman); Professor F. G. Donnan, F.R.S.; Professor C. L. Fortescue; Sir Robert Hadfield, Bart., F.R.S.; Mr. R. L. Mond; The Hon. Sir Charles Parsons, K.C.B., F.R.S.; Miss M. Parsons; Major C. E. S. Phillips; Professor Alfred W. Porter, F.R.S.; Professor A. O. Rankine; Mr. R. S. Whipple. Contributions should be sent to the assistant honorary secretary, Miss M. Parsons, at the offices of the Faraday Society and the Institute of Physics, 90, Great Russell Street, London, W.C.1. Cheques should be made payable to Professor A. W. Porter, hon. secretary and treasurer, and crossed "F. S. Spiers Memorial Fund A/c."

A New I.G. Absorption

The I.G. has still further extended its range of interests by absorbing the Köln-Rottweil Gesellschaft, a member of the Nobel group of explosive firms which has decided to amalgamate with the I.G. The Köln-Rottweil Co. has for some time been transferring its activities to the production of artificial silk and has reduced its output of explosives to something like a quarter of the former quantity. Its search for fresh capital, necessary after the reconstruction in consequence of the inflation, has resulted in its becoming associated with the trust, with which it has many interests in common. The main purpose of the fusion is to eliminate competition. It takes place in the proportion of 1,000 I.G. shares for every 2,000 Köln-Rottweil shares.

Weekly Prices of British Chemical Products

The prices and comments given below respecting British chemical products are based on direct information supplied by the British manufacturers concerned. Unless otherwise qualified, the figures quoted apply to fair quantities, net and naked at makers' works.

General Heavy Chemicals

Acid Acetic, 40% Tech.—£19 per ton.

Acid Boric, Commercial.—Crystal, £37 per ton, Powder, £39 per ton.

Acid Hydrochloric.—3s. 9d. to 6s. per carboy d/d, according to purity, strength, and locality.

Acid Nitric, 80° Tw.—£21 10s. to £27 per ton, makers' works, according to district and quality.

Acid Sulphuric.—Average National prices f.o.r. makers' works, with slight variations up and down owing to local considerations; 140° Tw., Crude Acid, 60s. per ton. 168° Tw., Arsenical, £5 10s. per ton. 168° Tw., Non-arsenical, £6 15s. per ton.

Ammonia Alkali.—£6 15s. per ton f.o.r. Special terms for contracts.

Bisulphite of Lime.—£7 10s. per ton, packages extra, returnable.

Bleaching Powder.—Spot, £9 10s. d/d; Contract, £8 10s. d/d, 4-ton lots.

Borax, Commercial.—Crystal, £23 per ton. Powder, £24 per ton. (Packed in 2-cwt. bags, carriage paid any station in Great Britain.)

Calcium Chlorate (Solid).—£5 12s. 6d. to £5 17s. 6d. per ton d/d, carr. paid.

Copper Sulphate.—£25 to £25 10s. per ton.

Methylated Spirit 64 O.P.—Industrial, 2s. 5d. to 2s. 11d. per gall. Mineralised, 3s. 8d. to 4s. per gall., in each case according to quantity.

Nickel Sulphate.—£38 per ton d/d.

Nickel Ammonia Sulphate.—£38 per ton d/d.

Potash Caustic.—£30 to £33 per ton.

Potassium Bichromate.—4½d. per lb.

Potassium Chlorate.—3¾d. per lb., ex wharf, London, in cwt. kegs.

Salammoniac.—£45 to £50 per ton d/d. Chloride of ammonia, £37 to £45 per ton, carr. paid.

Salt Cake.—£3 15s. to £4 per ton d/d. In bulk.

Soda Caustic, Solid.—Spot lots delivered, £15 2s. 6d. to £18 per ton, according to strength; 20s. less for contracts.

Soda Crystals.—£5 to £5 5s. per ton ex railway depots or ports.

Sodium Acetate 97/98%.—£21 per ton.

Sodium Bicarbonate.—£10 10s. per ton, carr. paid.

Sodium Bichromate.—3½d. per lb.

Sodium Bisulphite Powder 60/62%.—£17 per ton for home market, 1-cwt. iron drums included.

Sodium Chlorate.—3d. per lb.

Sodium Nitrite, 100% Basis.—£27 per ton d/d.

Sodium Phosphate.—£14 per ton, f.o.r. London, casks free.

Sodium Sulphate (Glauber Salts).—£3 12s. 6d. per ton.

Sodium Sulphide Conc. Solid, 60/65%.—£13 5s. per ton d/d. Contract, £13. Carr. paid.

Sodium Sulphide Crystals.—Spot, £8 12s. 6d. per ton d/d. Contract, £8 10s. Carr. paid.

Sodium Sulphite, Pea Crystals.—£14 per ton f.o.r. London, 1-cwt. kegs included.

Coal Tar Products

Acid Carbolic Crystals.—4¾d. to 5d. per lb. Crude 60's, 1s. 5d. to 1s. 6d.

Acid Cresylic 97/99.—1s. 8d. to 1s. 10d. per gall. Pale, 95%, 1s. 6d. to 1s. 8d. per gall. Dark, 1s. 3d. to 1s. 6d. per gall. Steady.

Anthracene.—A quality, 3d. to 4d. per unit.

Anthracene Oil, Strained.—7d. to 8d. per gall. Unstrained, 6½d. to 7½d. per gall.

Benzol.—Crude 65's, 1s. 3d. to 1s. 4d. per gall., ex works in tank wagons. Standard Motor, 2s. per gall., ex works in tank wagons. Pure, 1s. 10½d. to 2s. 9d. per gall., ex works in tank wagons.

Toluol.—90%, 1s. 9½d. to 2s. 3d. per gall. Pure, 2s. 3d. to 2s. 9d. per gall.

Xylol.—2s. 4d. to 2s. 9d. per gall. Pure, 3s. 3d. per gall.

Creosote.—Cresylic, 20/24%, 9d. to 10d. per gall. Standard specification, middle oil, 6½d. to 7½d. per gall. Heavy, 7½d. to 8½d. per gall.

Naphtha.—Crude, 9½d. to 1s. 0½d. per gall. according to quality. Solvent 90/160, 2s. to 2s. 3d. per gall. Solvent 90/190, 1s. 3d. to 1s. 4d. per gall.

Naphthalene Crude.—Drained Creosote Salts, £3 10s. to £5 per ton. Whizzed or hot pressed, £5 10s. to £7 10s.

Naphthalene.—Crystals and Flaked, £11 10s. to £13 per ton, according to districts.

Pitch.—Medium soft, 82s. 6d. to 87s. 6d. per ton.

Pyridine.—90/140, 17s. to 20s. per gall. Heavy, 7s. to 10s. per gall.

Intermediates and Dyes

In the following list of Intermediates delivered prices include packages except where otherwise stated.

Acid Amidonaphthol Disulpho (1-8-2-4).—10s. 9d. per lb.

Acid Anthranilic.—6s. 6d. per lb. 100%.

Acid Benzoic.—1s. 9d. per lb.

Acid Gamma.—8s. per lb.

Acid H.—3s. 3d. per lb. 100% basis d/d.

Acid Naphthionic.—2s. 2d. per lb. 100% basis d/d.

Acid Neville and Winther.—4s. 9d. per lb. 100% basis d/d.

Acid Sulphanilic.—9d. per lb. 100% basis d/d.

Aniline Oil.—7d. per lb. naked at works.

Aniline Salts.—7d. to 7½d. per lb. naked at works.

Benzaldehyde.—2s. 1d. per lb.

Benzidine Base.—3s. 3d. per lb. 100% basis d/d.

o-**Cresol 29/31° C.**—3d. to 3½d. per lb.

m-**Cresol 98/100%.**—2s. 1d. to 2s. 3d. per lb.

p-**Cresol 32/34° C.**—2s. 1d. to 2s. 3d. per lb.

Dichloraniline.—2s. 3d. per lb.

Dimethylaniline.—1s. 11d. to 2s. per lb. d/d. Drums extra.

Dinitrobenzene.—9d. per lb. naked at works.

Dinitrochlorbenzene.—£84 per ton d/d.

Dinitrotoluene.—48/50° C. 8d. per lb. naked at works. 66/68° C. 9d. per lb. naked at works.

Diphenylaniline.—2s. 10d. per lb. d/d.

a-**Naphthol.**—2s. per lb. d/d.

B-**Naphthol.**—11d. to 1s. per lb. d/d.

a-**Naphthylamine.**—1s. 3d. per lb. d/d.

B-**Naphthylamine.**—3s. 2d. per lb. d/d.

o-**Nitraniline.**—5s. 9d. per lb.

m-**Nitraniline.**—3s. 3d. per lb. d/d.

p-**Nitraniline.**—1s. 9d. per lb. d/d.

Nitrobenzene.—5d. per lb. naked at works.

Nitronaphthalene.—10d. per lb. d/d.

R. Salt.—2s. 4d. per lb. 100% basis d/d.

Sodium Naphthionate.—1s. 9d. per lb. 100% basis d/d.

o-**Toluidine.**—8d. per lb. naked at works.

p-**Toluidine.**—2s. 2d. per lb. naked at works.

m-**Xylidine Acetate.**—2s. 11d. per lb. 100%.

Wood Distillation Products

Acetate of Lime.—Brown, £8. Grey, £17 10s. per ton. Liquor, 9d. per gall. 32° Tw.

Charcoal.—£7 to £9 per ton, according to grade and locality.

Iron Liquor.—1s. 6d. per gall. 32° Tw. 1s. 2d. per gall., 24° Tw.

Red Liquor.—9½d. to 1s. per gall.

Wood Creosote.—2s. 9d. per gall. Unrefined.

Wood Naphtha, Miscible.—3s. 6d. per gall. 60% O.P. Solvent, 3s. 6d. per gall. 40% O.P.

Wood Tar.—£3 to £5 per ton, according to grade.

Brown Sugar of Lead.—£39 to £40 per ton.

Rubber Chemicals

Antimony Sulphide.—Golden, 6d. to 1s. 5d. per lb., according to quality, Crimson, 1s. 3d. to 1s. 7½d. per lb., according to quality.

Arsenic Sulphide, Yellow.—2s. per lb.

Barytes.—£3 10s. to £6 15s. per ton, according to quality.

Cadmium Sulphide.—2s. 9d. per lb.

Carbon Bisulphide.—£20 to £25 per ton, according to quantity.

Carbon Black.—5½d. per lb., ex wharf.

Carbon Tetrachloride.—£46 to £55 per ton, according to quantity, drums extra.

Chromium Oxide, Green.—1s. 2d. per lb.

Diphenylguanidine.—3s. 9d. per lb.

Indiarubber Substitutes, White and Dark.—5½d. to 6½d. per lb.

Lamp Black.—£35 per ton, barrels free.

Lead Hyposulphite.—9d. per lb.

Lithopone, 30%.—£22 10s. per ton.

Mineral Rubber "Rubpron."—£13 12s. 6d. per ton f.o.r. London.

Sulphur.—£9 to £11 per ton, according to quality.

Sulphur Chloride.—4d. per lb., carboys extra.

Sulphur Precip. B.P.—£47 10s. to £50 per ton.

Thiocarbamide.—2s. 6d. to 2s. 9d. per lb. carriage paid.

Thiocarbanilide.—2s. 1d. to 2s. 3d. per lb.

Vermilion, Pale or Deep.—5s. 3d. per lb.

Zinc Sulphide.—1s. 1d. per lb.

Pharmaceutical and Photographic Chemicals

Acid, Acetic, 80% B.P.—£39 per ton ex wharf London in glass containers.

Acid, Acetyl Salicylic.—2s. 4d. to 2s. 5d. per lb. Brisk demand.

Acid, Benzoic B.P.—2s. to 2s. 3d. per lb., according to quantity.

Acid, Boric B.P.—Crystal, £43 per ton; Powder, £47 per ton. Carriage paid any station in Great Britain, in ton lots.

Acid, Camphoric.—19s. to 21s. per lb.

Acid, Citric.—1s. 4d. to 1s. 4½d. per lb., less 5%.

Acid, Gallic.—2s. 8d. per lb. for pure crystal, in cwt. lots.

Acid, Pyrogallic, Crystals.—6s. 7d. per lb. Resublimed, 7s. 3d.

Acid, Salicylic.—1s. 4d. to 1s. 5d. per lb. Technical.—10¾d. to 11d. per lb.

Acid, Tannic B.P.—2s. 10d. per lb.

Acid, Tartaric.—1s. 0½d. per lb., less 5%. Market firm.

Amidol.—8s. 6d. per lb., d/d.

Acetanilide.—1s. 7d. to 1s. 8d. per lb. for quantities.

Amidopyrin.—12s. 6d. per lb.

Ammonium Benzoate.—3s. 3d. to 3s. 6d. per lb., according to quantity.

Ammonium Carbonate B.P.—£37 per ton. Powder, £39 per ton in 5 cwt. casks.

Atropine Sulphate.—11s. per oz. for English make.

Barbitone.—9s. per lb.

Benzonaphthol.—3s. 3d. per lb. spot.

Bismuth Carbonate.—12s. 6d. to 14s. 3d. per lb.

Bismuth Citrate.—9s. 6d. to 11s. 3d. per lb.

Bismuth Salicylate.—10s. 3d. to 12s. per lb.

Bismuth Subnitrate.—10s. 9d. to 12s. 6d. per lb. according to quantity.

Borax B.P.—Crystal, £27; Powder, £28 per ton. Carriage paid any station in Great Britain, in ton lots.

Bromides.—Potassium, 1s. 9d. to 1s. 11d. per lb.; sodium, 1s. 11d. to 2s. 2d. per lb.; ammonium, 2s. 2d. to 2s. 5d. per lb., all spot.

Calcium Lactate.—1s. 4d. to 1s. 5d.

Chloral Hydrate.—3s. 3d. to 3s. 6d. per lb., duty paid.

Chloroform.—2s. 3d. to 2s. 7½d. per lb., according to quantity.

Creosote Carbonate.—6s. per lb.

Formaldehyde.—£40 per ton, in barrels ex wharf.

Guaiacol Carbonate.—7s. 6d. per lb.

Hexamine.—2s. 4d. to 2s. 6d. per lb.

Homatropine Hydrobromide.—30s. per oz.

Hydrastine Hydrochloride.—English make offered at 120s. per oz.

Hydrogen Peroxide (12 vols.).—1s. 8d. per gallon f.o.r. makers' works, naked.

Hydroquinone.—4s. 3d. per lb., in cwt. lots.

Hypophosphites.—Calcium, 3s. 6d. per lb., for 28-lb. lots; potassium, 4s. 1d. per lb.; sodium, 4s. per lb.

Iron Ammonium Citrate B.P.—2s. to 2s. 3d. per lb. Green, 2s. 4d. to 2s. 9d. per lb. U.S.P., 2s. 1d. to 2s. 4d. per lb.

Iron Perchloride.—20s. to 22s., according to quantity.

Magnesium Carbonate.—Light Commercial, £31 per ton net.

Magnesium Oxide.—Light Commercial, £67 10s. per ton, less 2½%, price reduced; Heavy Commercial, £22 per ton, less 2½%; Heavy Pure, 2s. to 2s. 3d. per lb., according to quantity.

Menthol.—A.B.R. recrystallised B.P., 17s. 6d. net per lb., Synthetic, 12s. to 14s. per lb., according to quality.

Mercurials.—Red oxide, 5s. 11d. to 6s. 1d. per lb.; Corrosive sublimate, 4s. 3d. to 4s. 5d. per lb.; white precipitate, 4s. 9d. to 4s. 11d. per lb.; Calomel, 4s. 6d. to 4s. 8d. per lb.

Methyl Salicylate.—1s. 7d. per lb.

Methyl Sulphonal.—16s. 6d. per lb.

Metol.—10s. per lb. British make.

Paraformaldehyde.—1s. 9d. for 100% powder.

Paraldehyde.—1s. 4d. per lb. (1s. 2d. in carboys.)

Phenacetin.—4s. per lb.

Phenazone.—6s. per lb.

Phenolphthalein.—4s. per lb.

Potassium Bitartrate 99/100% (Cream of Tartar).—80s. per cwt., less 2½% for ton lots.

Potassium Citrate.—2s. to 2s. 1d. per lb.

Potassium Ferricyanide.—1s. 9d. per lb. in cwt. lots. Quiet.

Potassium Iodide.—16s. 8d. to 17s. 2d. per lb., according to quantity.

Potassium Metabisulphite.—6d. per lb., 1-cwt. kegs included, f.o.r. London.

Potassium Permanganate.—B.P. crystals, 6½d. per lb., spot.

Quinine Sulphate.—1s. 8d. to 1s. 9d. per oz., in 100 oz. tins.

Resorcin.—4s. to 5s. per lb., spot.

Saccharin.—55s. per lb.

Salol.—3s. per lb.

Sodium Benzoate, B.P.—1s. 10d. to 2s. 2d. per lb.

Sodium Citrate, B.P.C., 1911.—1s. 8d. to 1s. 11d. per lb., B.P.C., 1923. 2s. to 2s. 2d. per lb., according to quantity.

Sodium Ferrocyanide.—4d. per lb. carriage paid.

Sodium Hyposulphite, Photographic.—£15 5s. per ton, d/d consignee's station in 1-cwt. kegs.

Sodium Nitroprusside.—16s. per lb.

Sodium Potassium Tartrate (Rochelle Salt).—75s. to 80s. per cwt., according to quantity.

Sodium Salicylate.—Powder, 1s. 9d. to 1s. 10d. per lb. Crystal, 1s. 10d. to 1s. 11d. per lb.

Sodium Sulphide, pure recrystallised.—10d. to 1s. 2d. per lb.

Sodium Sulphite, anhydrous, £27 10s. to £28 10s. per ton, according to quantity; 1-cwt. kegs included.

Sulphonal.—11s. per lb.

Tartar Emetic, B.P.—Crystal or Powder, 1s. 10d. to 1s. 11d. per lb.

Thymol.—12s. to 13s. 9d. per lb.

Perfumery Chemicals

Acetophenone.—10s. per lb.

Aubepine (ex Anethol).—10s. per lb.

Amyl Acetate.—3s. per lb.

Amyl Butyrate.—5s. 6d. per lb.

Amyl Salicylate.—3s. 3d. per lb.

Anethol (M.P. 21/22° C.).—5s. 9d. per lb.

Benzyl Acetate from Chlorine-free Benzyl Alcohol.—2s. 3d. per lb.

Benzyl Alcohol free from Chlorine.—2s. 3d. per lb.

Benzaldehyde free from Chlorine.—2s. 6d. per lb.

Benzyl Benzoate.—2s. 9d. per lb.

Cinnamic Aldehyde Natural.—17s. 9d. per lb.

Coumarin.—11s. 9d. per lb.

Citronellol.—15s. per lb.

Citral.—10s. per lb.

Ethyl Cinnamate.—10s. per lb.

Ethyl Phthalate.—3s. per lb.

Eugenol.—10s. per lb.

Geraniol (Palmarosa).—20s. per lb.

Geraniol.—6s. 3d. to 11s. 6d. per lb.

Heliotropine.—5s. per lb.

Iso Eugenol.—14s. per lb.

Linalol.—14s. to 17s. 6d. per lb.

Linalyl Acetate.—17s. to 20s. per lb.

Methyl Anthranilate.—9s. 3d. per lb.

Methyl Benzoate.—5s. per lb.

Musk Ketone.—34s. 6d. per lb.

Musk Xylol.—8s. per lb.

Nerolin.—3s. 9d. per lb.

Phenyl Ethyl Acetate.—12s. per lb.

Phenyl Ethyl Alcohol.—9s. 6d. per lb.

Rhodinol.—27s. 6d. per lb.

Safrol.—1s. 6d. per lb.

Terpineol.—1s. 6d. per lb.

Vanillin.—21s. 6d. to 23s. per lb.

Essential Oils

Almond Oil.—11s. 6d. per lb.

Anise Oil.—3s. per lb.

Bergamot Oil.—28s. 6d. per lb.

Bourbon Geranium Oil.—10s. 6d. per lb.

Camphor Oil.—60s. per cwt

Cananga Oil, Java.—20s. per lb.

Cinnamon Oil, Leaf.—6d. per oz.

Cassia Oil, 80/85%.—8s. 9d. per lb.

Citronella Oil.—Java, 85/90%, 2s. 8d. Ceylon, 2s. per lb.

Clove Oil.—7s. per lb.

Eucalyptus Oil, 70/75%.—2s. per lb.

Lavender Oil.—French 38/40%, Esters, 15s. 6d. per lb.

Lemon Oil.—8s. per lb.

Lemongrass Oil.—4s. 6d. per lb.

Orange Oil, Sweet.—11s. 6d. per lb.

Otto of Rose Oil.—Bulgarian, 65s. per oz. Anatolian, 30s. per oz.

Palma Rosa Oil.—9s. 9d. per lb.

Peppermint Oil.—Wayne County, 67s. 6d. per lb. Japanese, 9s. 6d. per lb.

Petitgrain Oil.—9s. per lb.

Sandal Wood Oil.—Mysore, 26s. per lb. Australian, 17s. 3d. per lb.

London Chemical Market

The following notes on the London Chemical Market are specially supplied to THE CHEMICAL AGE *by Messrs. R. W. Greeff & Co., Ltd., and Messrs. Chas. Page & Co., Ltd., and may be accepted as representing these firms' independent and impartial opinions.*

London, July 15, 1926.

THERE has been quite a noticeable and unexpected improvement in the uptake of chemicals generally during the past week. There have been few price changes and the market remains quite firm. Export demand is quiet. Owing to the continuation of the Coal strike there is no change in the Coal Tar products report.

General Chemicals

ACETONE is in fair demand, price £80 to £82 per ton.

ACID ACETIC has been an active market for both home trade and export. Technical 80% is quoted at £37 to £39 per ton. The export price is unchanged according to destination.

ACID FORMIC is quieter. Price is very firm.

ACID LACTIC unchanged at £43 per ton for 50% by weight. Demand is only moderate.

ACID OXALIC is in better demand and is quoted at 3¾d. per lb.

ACID TARTARIC is firmer at 11¾d. per lb.

ALUMINA SULPHATE is rather quiet. The current quotation is about £5 10s. for 17–18%.

AMMONIUM CHLORIDE remains uninteresting. The nominal price of £18 to £19 can be shaded for important business.

ARSENIC.—There is no demand and the price is nominal.

BARIUM CHLORIDE is a little weaker at £9 15s. to £10 per ton.

EPSOM SALTS.—Unchanged.

FORMALDEHYDE has been in a little better inquiry and is quoted at £39 to £40 per ton.

IRON SULPHATE.—Unchanged.

LEAD ACETATE is quieter. The price is firm at about £45 10s. per ton for white, with the usual difference for brown.

METHYL ALCOHOL is quiet, £48 to £50 per ton.

METHYL ACETONE.—Unchanged.

POTASSIUM CARBONATE.—Unchanged.

POTASSIUM CHLORATE is in quiet demand, 3½d. to 3¾d. per lb.

POTASSIUM PERMANGANATE.—Only a small business is passing. The price is 7d. per lb. for B.P. quality.

POTASSIUM PRUSSIATE is very firm and is quoted at 7¼d. per lb.

SODA ACETATE.—The scarcity is even more apparent, spot price commanding £22 to £23 per ton.

SODA BICHROMATE is an active market. English makers' price is unchanged at 3½d. per lb.

SODA NITRATE is a firm market at about £20 10s. per ton.

SODA PHOSPHATE.—Unchanged.

SODA PRUSSIATE is very firm and is quoted at 3¾d. to 4d. per lb.

SODA SULPHIDE.—Unchanged.

ZINC SULPHATE.—Unchanged.

Latest Oil Prices

LONDON.—LINSEED OIL firm at 5s. to 7s. 6d. advance. Spot £35 5s., ex mill; July, £34 5s.; July-Aug., £34 7s. 6d.; Sept.-Dec., £34 15s.; Jan.-April, £35 7s. 6d. RAPE OIL nominal. Crude extracted, spot, £49, naked; Japanese crude, July-Aug., shipment, £46, in barrels. COTTON OIL steady. Refined common edible, £45; deodorised, £47; Egyptian crude, 20s. higher at £40. TURPENTINE firm and 3d. to 6d. per cwt. higher. American spot, 60s. 3d.; and July-December, 60s.

HULL.—LINSEED OIL.—Naked spot, to July-Aug., £35; Sept.-Dec., £35 2s. 6d.; Jan.-April, £35 7s. 3d. COTTON OIL.—Naked Bombay crude, £36 15s.; Egyptian crude, £40; edible refined, £44 5s.; technical, £41. PALM KERNEL OIL.—Crushed naked, 5½ per cent., £43. GROUND NUT OIL.—Crushed/extracted, £47; deodorised, £51. SOYA OIL.—Extracted and crushed, £38 5s.; deodorised £41 15s. RAPE OIL.—Crude extracted, £48; refined, £50 per ton net, cash terms, ex mill. CASTOR OIL and COD OIL unchanged.

Nitrogen Products

Export.—The sulphate of ammonia position remains unchanged. British producers are sellers for prompt shipment in the small lots available on the basis of £10 15s. per ton f.o.b. U.K. port in single bags. On account of the shortage due to the coal difficulties the forward business that is being done is being taken by continental and American producers.

Home.—The usual drop in home prices for the summer months has not taken place, because producers are still unaware of the quantities for sale being available during the year. Small sales are being taken at the March/May price of £13 1s. per ton, delivered to consumers' nearest station. As the demand is very small during the summer months this makes little difference to the trade.

Nitrate of Soda.—Nitrate of soda remains quiet. Shipments are taking place at the list price of 18s. 4d. per metric quintal f.a.s. Chilean port. The progress of the negotiations of the Producers Association with the Chilean Government for a reduction in the export tax has not been reported.

Calcium Cyanamide

WITH the opening of the new fertiliser season the market for calcium cyanamide is showing renewed activity. The favourable appearance of crops, both in this country and abroad, which have been treated with calcium cyanamide, has evidently caused the trade to give increased attention to the material. The new prices for Britain have not yet been announced, but a certain amount of business is still being transacted at the old rates.

A GROUP OF ARTIFICIAL SILK FINANCIERS are said to be carefully investigating the possibility of establishing a factory on the site of the old Cape Copper Works, near Swansea, now being dismantled. Negotiations are proceeding and every local encouragement is being given. If a factory is built there it will be the first in Wales with the exception of those operated by Courtaulds, Ltd., in the extreme north.

Ball and Grinding Mill Sales

INTERNATIONAL COMBUSTION, LTD., of 11, Southampton Row, London, report the sale of the following through its Grinding and Pulverising offices:—Repeat order for latest type 8 ft. dia. by 36 in. cyl. Hardinge Conical Ball Mill complete with chrome lining, balls, motor and classifier for the wet grinding of lead zinc ore from 1½ in. to 48 mesh—for Spain; one 4½ ft. dia. Hardinge Conical Ball Mill for the dry grinding of sillimanite, a tough and abrasive material—for England; two 3 ft. by 8 in. cyl., three 4½ ft. by 13 in. cyl., three 6 ft. by 16 in. cyl., and three 6 ft. by 48 in. cyl. Hardinge Conical Ball Mills, all for tin grinding—for Dutch East Indies; one 3 ft. by 8 in. cyl. Hardinge Conical Ball Mill for lead zinc ore; repeat order for 7 ft. by 22 in. cyl. Hardinge Conical Ball Mill of latest and improved design, machine-cut steel gearing and chain drive—for India; one 3 ft. by 8 in. cyl. Hardinge Ball Mill for grinding cassiterite ore—for France; one 3 ft. by 18 in. cyl. Hardinge Ball Mill—for France; one 4½ ft. by 13 in. cyl. Hardinge Ball Mill for grinding chemical iron—for France; one 6 ft. by 22 in. Hardinge Ball Mill—for France; Raymond Pulveriser complete with air separator, for grinding barium peroxide—for England; two 5-roller high side Raymond Mills for grinding bituminous coal—for France; two 5-roller low side Raymond Mills for grinding coal—for France; separating plant for separating fuller's earth—for England; one 4 ft. and one 8 ft. heavy type 39 Hum-mer electric screens for screening abrasive pyrite, producing 1½ in. and ½ in. products—for Cyprus; one 4 ft. type 33 Hum-mer electric screen for screening silica—for England.

MR. F. G. PENTECOST, who has been on the staff of A. Boake, Roberts and Co., Ltd., for some twenty-two years, has been co-opted to the board of the company. Mr. Pentecost, after working in the laboratories for a short time, became closely associated with the commercial side of the business, and more recently has made journeys to India and the East, and also to Australia with a view to conferring with the agents of the company in those countries.

AT THE FIRST meeting of creditors of Arthur Cockroft, trading as A. Cockroft and Co., 252, Wakefield Road, Moldgreen, Huddersfield, oil merchant, the statement of affairs showed gross liabilities £350 19s. 4d., against assets £43 6s., deficiency £272 6s. 2d. The debtor attributed his failure to lack of capital and bad trade, chiefly owing to the textile and coal strikes. The matter was left with the Official Receiver as trustee of the estate.

THE I.G. FARBENINDUSTRIE and the Standard Oil Co. are said to be negotiating for an adjustment of interests in connection with the former company's scheme for the distillation of coal, and an agreement is said to have been reached on the basic principles. The purpose of the arrangement is presumed to be the general settlement of spheres of interest in the world market for motor spirit.

THE EXPLOSION OF SOME CHEMICALS caused an outbreak of fire at Ash Grove, Hackney, in premises occupied by W. G. Bush and Co., Ltd., manufacturing chemists. The fire was quickly subdued, but two persons were injured in an explosion of ether, and some damage was done.

A TAR-SPRAYING BOILER recently caught fire in Hull, and a certain amount of damage was done before the fire brigade extinguished the outbreak with wet sacks.

Scottish Chemical Market

The following notes on the Scottish Chemical Market are specially supplied to THE CHEMICAL AGE *by Messrs. Charles Tennant and Co., Ltd., Glasgow, and may be accepted as representing the firm's independent and impartial opinions.*

Glasgow, July 15, 1926.

WITH the coal stoppage still in being, the heavy chemical market continues quiet, what little inquiry there is being mostly for export. Prices still remain fairly steady.

Industrial Chemicals

ACID ACETIC, 98/100%.—£55 to £67 per ton, according to quantity and packing, c.i.f. U.K. port; 80% pure, £39 to £41 per ton; 80% technical, £38 to £39 per ton.

ACID BORIC.—Crystal, granulated or small flakes, £37 per ton; powdered, £39 per ton, packed in bags, carriage paid U.K. stations.

ACID CARBOLIC, ICE CRYSTALS.—In moderate demand and quoted price unchanged at 4¾d. per lb., delivered or f.o.b. U.K. port.

ACID CITRIC, B.P. CRYSTALS.—In usual steady demand, and price unchanged at about 1s. 3½d. per lb., less 5% ex store. Quoted 1s. 3¾d. per lb., less 5% ex wharf, early delivery.

ACID FORMIC, 85%.—Offered from the continent at about £51 per ton, c.i.f. U.K. ports. Spot material quoted £52 10s. per ton, ex wharf.

ACID HYDROCHLORIC.—In little demand. Price 6s. 6d. per carboy, ex works.

ACID NITRIC, 80°. — Usual steady demand and price unchanged at £23 5s. per ton, ex station, full truck loads.

ACID OXALIC, 98/100%.—Remains unchanged at about 3½d. per lb., ex store. Offered for early delivery from the continent at 3¾d. per lb., ex wharf.

ACID SULPHURIC.—144°, £3 12s. 6d. per ton; 168°, £7 per ton, ex works, full truck loads. Dearsenicated quality 20s. per ton more.

ACID TARTARIC, B.P. CRYSTALS.—Spot material quoted 11¾d. per lb., less 5% ex wharf, or 11½d. per lb. less 5% ex wharf, prompt shipment.

ALUMINA SULPHATE, 17/18%, IRON FREE. — On offer from the continent at about £5 8s. 6d. per ton, c.i.f. U.K. ports. Spot material quoted £6 5s. per ton, ex store.

ALUM, LUMP POTASH.—Spot material unchanged at about £9 5s. per ton, ex store. Quoted £8 per ton, c.i.f. U.K. ports, prompt shipment. Crystal powder, on offer at about £7 15s. per ton, c.i.f. U.K. ports. Spot material available at £8 7s. 6d. per ton, ex store.

AMMONIA ANHYDROUS.—Imported material selling at about 11¼d. to 11½d. per lb., ex wharf, containers extra and returnable.

AMMONIA CARBONATE.—Lump, £37 per ton; powdered, £39 per ton, packed in 5 cwt. casks, delivered or f.o.b. U.K. ports.

AMMONIA LIQUID, 880°.—Unchanged at about 2½d. to 3d. per lb., delivered, according to quantity.

AMMONIA MURIATE.—Grey galvanisers' crystals of British manufacture, quoted £23 10s. to £25 10s. per ton, ex station. Continental on offer at about £21 10s. per ton, c.i.f. U.K. ports. Fine white crystals of continental manufacture quoted £18 5s. per ton, c.i.f. U.K. port.

ARSENIC, WHITE POWDERED.—Spot material unchanged at about £16 5s. per ton, ex store. Offered for prompt shipment from mines at about £15 10s. per ton, ex wharf.

BARIUM CARBONATE, 98/100%.—White powdered quality quoted £6 15s. per ton, c.i.f. U.K. ports.

BARIUM CHLORIDE, 98/100%.—Spot material unchanged at about £10 10s. per ton, ex store. Offered from the continent at about £9 5s. per ton, c.i.f. U.K. ports.

BLEACHING POWDER.—English material unchanged at £9 10s. per ton, ex station, contracts 20s. per ton less. Continental now quoted £7 15s. per ton, c.i.f. U.K. ports.

BARYTES.—English material unchanged at £5 5s. per ton, ex works. Continental quoted £5 per ton, c.i.f. U.K. ports.

BORAX.—Granulated, £22 10s. per ton; crystals, £23 per ton; powdered, £24 per ton, carriage paid U.K. stations.

CALCIUM CHLORIDE.—English manufacturers, price unchanged at £5 12s. 6d. to £5 17s. 6d. per ton, ex station. Continental slightly easier at £3 15s. per ton, c.i.f. U.K. ports.

COPPERAS, GREEN.—Quoted £3 10s. per ton, f.o.r. works. Moderate inquiry for export and price about £4 2s. 6d. per ton, f.o.b. U.K. ports.

COPPER SULPHATE, 99/100%.—Continental material on offer at about £22 10s. per ton, ex wharf. English material for export quoted £23 5s. per ton, f.o.b. U.K. ports.

FORMALDEHYDE, 40%.—Quoted £38 10s. per ton, c.i.f. U.K. ports. Spot material available at £40 per ton, ex store.

GLAUBER SALTS.—English material unchanged at £4 per ton, ex store, or station. Continental quoted £3 per ton, c.i.f. U.K. ports.

LEAD, RED.—Imported material unchanged at about £37 10s. per ton, ex store.

LEAD, WHITE.—On offer at £38 10s. per ton, ex store.

LEAD ACETATE.—White crystals quoted £45 per ton, c.i.f. U.K. ports, prompt shipment. Brown about £40 10s. per ton, c.i.f. U.K. ports.

MAGNESITE, GROUND CALCINED.—Quoted £8 10s. per ton, ex store, in moderate demand.

POTASH CAUSTIC.—88/92%.—Syndicate prices vary from £25 10s. to £28 15s. per ton c.i.f. U.K. ports according to quantity and destination. Spot material available at about £29 per ton.

POTASSIUM BICHROMATE.—Unchanged at 4½d. per lb. delivered.

POTASSIUM CARBONATE, 96/98%.—Quoted £25 5s. per ton, ex wharf, early delivery. Spot material on offer at £26 10s. per ton, ex store. 90/94% quality quoted £22 5s. per ton c.i.f. U.K. ports.

POTASSIUM CHLORATE, 98/100%.—Powdered on offer at £26 15s. per ton c.i.f. U.K. ports. Crystals, £28 per ton c.i.f. U.K. ports.

POTASSIUM NITRATE (SALTPETRE).—Unchanged at about £22 5s. per ton c.i.f. U.K. ports. Spot material available at £24 per ton, ex store.

POTASSIUM PERMANGANATE, B.P. CRYSTALS.—Quoted 7½d. per lb., ex store, spot delivery. To come forward 7d. per lb., ex wharf.

POTASSIUM PRUSSIATE, YELLOW.—Quoted 7¼d. per lb., ex wharf.

SODA CAUSTIC, 76/77%, £17 10s. per ton; 70/72%, £16 2s. 6d. per ton. Broken 60%, £16 12s. 6d. per ton. Powdered 98/99%, £20 17s. 6d. per ton. All carriage paid U.K. stations, spot delivery. Contracts 20s. per ton less.

SODIUM ACETATE.—English material quoted £22 per ton, ex station. Continental on offer at about £20 10s. per ton, ex store, or to come forward £19 15s. per ton, c.i.f. U.K. ports.

SODIUM BICARBONATE.—Refined recrystallised quality £10 10s. per ton, ex quay, or station. M.W. quality 30s. per ton less.

SODIUM BICROMATE.—English price unchanged at 3½d. per lb. delivered.

SODIUM CARBONATE (SODA CRYSTALS).—£5 to £5 5s. per ton, ex quay or station. Powdered or pea quality £1 7s. 6d. per ton more (alkali 58%), £8 12s. 3d. per ton, ex quay or station.

SODIUM HYPOSULPHITE OF SODA.—Large crystals of English manufacture quoted £9 per ton, ex station, minimum 4 ton lots. Pea crystals, £14 10s. per ton, ex station. Continental commercial on offer at about £7 15s. per ton c.i.f. U.K. ports.

SODIUM NITRATE.—Quoted £13 per ton, ex store; 96/98% refined quality, 7s. 6d. per ton extra.

SODIUM NITRITE, 100%.—Quoted £24 per ton, ex store. Offered from the continent at about £22 5s. per ton c.i.f. U.K. ports.

SODIUM PRUSSIATE, YELLOW.—Offered for early delivery at 4d. per lb., ex wharf. Spot material quoted 4¼d. per lb., ex store.

SODIUM SULPHATE, SALTCAKE.—Price for home consumption, £3 10s. per ton, ex works. Good inquiry for export and higher prices obtainable.

SODIUM SULPHIDE, 60/62%.—Solid, £13 5s. per ton. Broken, £14 5s. per ton. Flake, £15 5s. per ton. Crystals, 31/34%, £8 12s. 6d. per ton. All delivered buyers' works U.K., minimum 5 ton lots, with slight reduction for contracts. 60/62% solid quality offered from the continent at about £9 15s. per ton c.i.f. U.K. ports. Broken 15s. per ton more. Crystals 30/32%, £7 per ton c.i.f. U.K. ports.

SULPHUR.—Flowers, £11 10s. per ton; Roll, £10 5s. per ton; Rock, £10 5s. per ton; Floristella, £9 15s. per ton; Ground American, £9 per ton, ex store, spot delivery. Prices nominal.

ZINC CHLORIDE.—British material, 96/98%, quoted £23 15s. per ton f.o.b. U.K. ports; 98/100% solid on offer from the continent at about £21 15s. per ton c.i.f. U.K. ports. Powdered 20s. per ton extra.

ZINC SULPHATE.—Continental make on offer at about £11 per ton, ex wharf.

NOTE.—The above prices are for bulk business and are not to be taken as applicable to small parcels.

Coal Tar Intermediates

BETA NAPHTHOL.—11d. to 1s. per lb.; some inquiries.

ALPHA NAPHTHOL.—2s. per lb.; fair home inquiries.

NAPHTHIONATE OF SODA.—1s. 8d. per lb.; small home inquiries.

PARANITRANILINE.—1s. 9d. per lb.; small home inquiries.

IMPORTANT ARTIFICIAL SILK developments were foreshadowed recently by a director of the exhibition of British artificial silk goods in discussing the decision to hold the exhibition again next April at Holland Park Hall, London. "These developments, which are both technical and financial, are closely guarded secrets at present," he said, "but big strides are known to have been made in the industry even in the few months since the last exhibition, and it is the unanimous wish of all who exhibited then that there should be an annual review of progress."

Manchester Chemical Market

[From Our Own Correspondent.]

Manchester, July 15, 1926.

Both home and export demand for chemicals on the Manchester market during the past week has been restricted, and, as before, the majority of the transactions are for prompt delivery of comparatively small parcels. Most of the products, however, are successfully resisting the influence of the limited trade that is being done, and, taking the market generally, there is very little real weakness, although one or two lines continue to show some slight easiness.

Heavy Chemicals

There is a moderate demand for hyposulphite of soda at from £14 15s. to £15 per ton for photographic quality and £9 10s. for commercial. Glauber salts are in limited request, although fairly steady at about £3 15s. per ton. Bleaching powder is still on offer at £8 10s. to £8 15s. per ton, a fair call for this being reported. There is no alteration in the position of phosphate of soda; sales are still quiet, but prices remain fairly steady at about £12 15s. per ton. Chlorate of soda is rather inactive and values have an easy tendency at about 3½d. per lb. Saltcake is quiet but unchanged at £3 to £3 5s. per ton. Acetate of soda maintains its steadiness at round £21 10s. per ton. Caustic soda is steady and in fair request at from £15 2s. 6d. per ton for 60 per cent. strength to £17 10s. for 76 per cent. Bichromate of soda meets with a moderate demand, and values are well held at about 3¼d. per lb. Bicarbonate of soda is fully maintained at £10 10s. per ton, but the demand for this remains quiet. Alkali is steady at about £6 15s. per ton, and a fair demand for this is reported this week. There is still a marked absence of activity in the market for sulphide of sodium, although quotations seem to be rather steadier again; commercial quality is on offer at from £8 15s. to £9 per ton and 60 to 65 per cent. concentrated solid at round £10 10s.

Among the potash compounds there is little buying of any consequence just now. Caustic potash is still on offer at £27 per ton, and a quietly steady business is being done. Carbonate of potash is on the quiet side, and is quoted at £25 15s. to £26 per ton. Yellow prussiate of potash is slow and easy at 6⅞d. per lb. A moderate demand has been met with for bichromate of potash, which keeps very steady at 4¼d. per lb. Chlorate of potash is rather quiet at about last week's figure of 3⅝d. per lb. For permanganate of potash inquiry is fair and prices are steady at round 5½d. per lb. for commercial and 7d. to 7¼d. per lb. for B.P. quality.

Arsenic shows little appreciable improvement in the volume of buying, and white powdered, Cornish makes, is still being offered at about £13 10s. per ton, on rails. Sulphate of copper is still in rather slow demand at £23 5s. to £23 10s. per ton, f.o.b. Nitrate of lead is in small request, but values are maintained at about £40 10s. per ton. The acetates of lead are also a steady section, white still being quoted at £45 to £46 per ton, and brown at £40 10s. Acetate of lime is only in limited demand, but quotations show little change at round £16 per ton for grey and £7 15s. for brown.

Acids and Tar Products

There has not been much change in the general position of the acids. Oxalic acid is still a slow seller at from 3½d. to 3⅝d. per lb. Citric and tartaric acid are steady and in fair request at 1s. 3½d. and 11¾d. per lb. respectively. Acetic acid is not particularly active, although values are pretty steady at £36 10s. to £37 per ton commercial, 80 per cent. material, and £66 to £67 for glacial.

For export pitch is now being quoted forward at up to 85s. per ton, f.o.b., although bookings are of limited extent. Cresylic acid is in short supply at about 1s. 11d. per gallon, in casks, with creosote oil in a similar position at round 7d. at works. Naphthaline is still quoted at from £12 to £15 per ton, and solvent naphtha at 1s. 9d. to 1s. 10d. per gallon. In many instances, however, prices are more or less nominal owing to the difficulty of procuring supplies.

Tariff Changes

Iraq.—An Annexure to the Government Gazette (No. 9 of 1926) of April 30 contains copy of the following Government Notification: 1. With effect from the date of publication of this Notification, all imported drugs, chemical and galenical preparations for medicinal use, in accordance with the Pharmacy and Wholesale Druggists Laws of Iraq, must in quality and substance be in accordance with the following: (1) The British Pharmacopœia of 1914; (2) The French Codex of 1908; or (3) The German Pharmacopœia No. 5. 2. Drugs, chemical and galenical preparations for medicinal use in Iraq not in conformity with Article 1 will not be permitted to be imported, and persons importing, keeping, selling or dealing in such drugs and preparations will be prosecuted in accordance with Article 15 of the Wholesale Druggists Law, 1924.

Belgium.—A new Decree reduces the duty applicable to refined borax (borate of soda) from 10 to 5 per cent. *ad valorem*, and affects duties on chemical, pharmaceutical and mineral products.

Spain.—Under existing regulations pharmaceutical specialities cannot be offered for sale in Spain unless they have been previously registered with the Direction-General of Health, and these regulations now cover disinfectants. Their text in Spanish may be seen at the Department of Overseas Trade.

Turkey.—Under the provisions of a recent Law (No. 752), cultivators in Turkey may obtain, without payment of Customs or consumption duty, petroleum, mazout and benzine for use in connection with their tractors, motor ploughs, reaping and threshing machines and lorries, provided that they make the necessary application and observe the procedure prescribed by the Law for ensuring that such duty-free oil is used only for the purposes in question. Exemption from payment of Customs, consumption and monopoly duty will also be accorded, subject to the same conditions and control, to drugs and chemical products used for combating plant and tree pests, animal parasites, and for the drying of grapes. The list of such drugs is established by the competent authorities, and may be modified according to circumstances.

Austria.—A Bill now before the Austrian Legislature for the amendment of the "General" Customs duties on certain goods imported into Austria includes proposed new duties on various chemicals and starch.

Palestine.—A Government Notice dated May 15, 1926, states that the following additions have been made to the Schedule of the Customs Duties Exemption Ordinance, 1924: Dental, surgical and medical appliances and apparatus; disinfectants; drugs, raw and prepared; sulphur; optical appliances, other than binoculars and telescopes; apparatus for the extinction of fire.

Australia.—Further amendments to the Tariff were made during its progress through Parliament, and the duties now amended will probably include those on cement-making machines, zinc blocks and shavings, etc.

Canada.—Appraiser's Bulletin No. 3193, issued by the Canadian Customs Authorities, states that in the case of olive oil, essential oils and extracts, pharmaceutical preparations and scientific instruments, etc., the manufacture or produce of a foreign country, having a substantially depreciated currency, entry may be accepted on the invoiced value without, however, restricting the Minister's right of Appraisement; and from time to time, this list of goods may be amended.

Austria.—An order dated June 16, becoming effective as from July 2, suspends the levy of Customs duty on certain classes of imported iron girders, plates and sheets.

Czecho-Slovakia.—New duties provided for in a new Bill which has passed the Czecho-Slovak legislature, include the following: Animal and vegetable tallows, various fatty oils, chemical papers (except photographic paper), cotton seed, olive and sesame, oils in barrels, etc.

Germany.—As from August 1, duties on solidified fish oil (accompanied by a certificate of pureness recognised by the Government), margarine, and various oils such as niger, poppy seed, etc., will be levied at the higher rates of the "General" tariff, except in so far as lower rates have been fixed by Commercial Treaties concluded between Germany and other countries.

Greece.—It is reported that the Greek Council of Ministers have decided to allow the exportation from Greece of 2½

million okes of olive oil, subject to the payment of an export tax of 3.80 drachmae per oke.

JAPAN.—Further corrections and additions to the revised customs tariff include physical and medical apparatus, benzoate of soda, radium salts, rhodium salts, and salol, etc.

NORWAY.—A translation of regulations drawn up by the Ministry of Commerce, defining the term "Chemically prepared fibre board," has now been prepared, and may be seen at the offices of the Department of Overseas Trade.

SPAIN.—A Royal Decree of June 8, prescribes regulations regarding the production and trade in olive and other edible oils, prohibits the importation of certain oleaginous seeds and increases the import duty on vegetable oils.

UNITED STATES.—The United States Tariff Commission has ordered investigations into the differences in costs of production and of all other facts and conditions in respect of soya beans and cotton seed, etc.

MARTINIQUE.—A Presidential Decree, dated June 14, provides for the imposition of an *ad valorem* duty of 2 per cent. on cetaceous oils and fats and spermacete, and of 1 per cent. on cetaceous manure and guano, on export from the colony of Martinique.

SPAIN.—A Royal Order, dated May 29, has been issued prescribing new regulations additional to the Order of March 9, prohibiting temporarily the importation into Spain of the intermediate products and synthetic organic colouring materials included in Tariff Nos. 793–6, of a kind manufactured in Spain. These are: Nitrated and chlorated derivatives: nitroaniline, nitrobenzol, nitrotoluol, oil and hydrochloride of aniline, chlorobenzol, chlorotoluol, chloroaniline, dinitrobenzol, dinitrochlorobenzol, nitro and dinitrophenol, nitrochlorobenzol and sulphanilic acid; paranitraniline, diphenylamine, alpha and beta-naphthol and anthraquinone; and artificial organic colouring materials (derived from coal tar, etc.) in powder, crystal, paste and solid form. Attached to the Order is a list of the colours, intermediate products, etc., which are considered as being produced in Spain. Licences for the importation of any of these will only be granted by the Central Commission in Madrid. Permission to import any products not specified in the list may be given by the Provincial Committee at Barcelona, which is also authorised to permit the clearance of postal packages containing up to 5 kilogs. of one colour. A copy of the Royal Order (in Spanish) may be seen by persons interested at the offices of the Department of Overseas Trade.

Chemical Trade Inquiries

The following inquiries, abstracted from the "Board of Trade Journal," have been received at the Department of Overseas Trade (Development and Intelligence), 35, Old Queen Street, London, S.W.1. British firms may obtain the names and addresses of the inquirers by applying to the Department (quoting the reference number and country), except where otherwise stated.

PAINTS AND COLOURS.—A manufacturer's agent in Sydney desires to secure the representation for British manufacturers. (Reference No. 41.)

DEXTRINE PLANT.—A British firm desires to obtain the names of British manufacturers of this plant. (Reference No. 10,293/26.)

CHEMICALS.—A firm established in Amsterdam desires to obtain the representation in Holland and the Dutch colonies of British manufacturers. (Reference No. 54.)

BENZOYL PEROXIDE.—An agent established at Utrecht is in a position to make a contract for the supply of from 3,000 to 5,000 kilos. per month to Holland, and wishes to get into touch with suppliers. (Reference No. 94.)

CHEMICALS.—A firm in Posen desires to obtain the representation of British exporters. (Reference No. 96.)

CEMENT AND CHEMICALS.—A firm of commission agents in Pernambuco wishes to get into touch with British exporters. (Reference No. 100.)

Fewer Explosive Factories

DECREASES both in the number of factories for the manufacture of explosives and the number of persons employed in them are recorded in the annual report of His Majesty's Inspectors of Explosives for 1925. The factories totalled 104 and the workpeople 9,610, compared with 133 factories and 13,103 people in 1920. The 1925 figures are the lowest recorded for the factories, while the only lower total for workpeople is that of 1885.

Company News

JOHN KNIGHT, LTD.—A dividend of 12½ per cent. is announced on the preferred ordinary shares for the year ended May 31.

INTERNATIONAL NICKEL CO., LTD.—A quarterly dividend of 1¾ per cent. on the preferred stock has been declared, payable on August 2.

CANADIAN EXPLOSIVES.—A dividend of 1¾ per cent. has been declared for the quarter ended June 30 on the 7 per cent. cumulative preferred shares, payable on July 15.

TARMAC, LTD.—In view of the trading conditions prevailing, the directors state it has been decided not to make any interim distribution for the current year on the ordinary shares.

COURTAULDS, LTD.—The directors have declared an interim dividend on the ordinary share capital of 1s. 3d. per share, free of tax, as compared with 1s. 6d. per share, tax free, a year ago.

ELECTROLYTIC ZINC OF AUSTRALASIA CO.—The directors announce a dividend of 6 per cent. for the six months ended June 30 last on the whole of the preference and ordinary shares, payable on July 30.

BROKEN HILL PROPRIETARY BLOCK 14.—It is announced that dividend No. 39 of 6d. per share on the preference shares, and dividend No. 80 of 6d. per share on the ordinary shares have been declared, payable on August 11.

BRITISH OXYGEN CO., LTD.—After providing for debenture interest, redemption, depreciation and all standing charges, the profit for the year ended March 31 last amounted to £88,104, against £137,090 in the previous year. The directors recommend a final dividend of 4¼ per cent., subject to tax, making with the interim dividend of 3¾ per cent. a total for the year of 8 per cent.

JOHN DELANEY (HORTON LIMEWORKS), LTD.—A statement published in the press on Wednesday, for general information only, indicates that the company was incorporated in England on July 27, 1925, and has a share capital of £130,000 divided into 129,950 ordinary shares of £1 each, and 1,000 deferred shares of 1s. each. Mr. F. Woolley-Hart, of the Yorkshire Coking and Chemical Co., Ltd., is one of the directors of the company.

New Chemical Trade Marks

Applications for Registration

This list has been specially compiled for us by Mr. H. T. P. Gee, Patent and Trade Mark Agent, Staple House, 51 and 52, Chancery Lane, London, W.C.2, from whom further information may be obtained, and to whom we have arranged to refer any inquiries relating to Patents, Trade Marks and Designs.

Opposition to the Registration of the following Trade Marks can be lodged up to August 7, 1926.

"BIMUTINE"

468,269. For road oil, asphalt and other bituminous products, ceresine, paraffin and other wax products and substitutes for oil and petroleum, all being substances raw or partly prepared for use in manufactures. Class 4. De Bataafsche Petroleum Maatschappij (a Joint Stock Company organised under the laws of Holland), 30, Carel van Bylandtlaan, The Hague, Holland; manufacturers and merchants. March 18, 1926.

"NORDAC"

469,024. For india-rubber mixtures, being raw or partly prepared substances for use in manufactures. Class 4. Norman Swindin, 4, Heathfield Road, Mill Hill Park, Acton, London, W.3; chemical engineer. April 15, 1926.

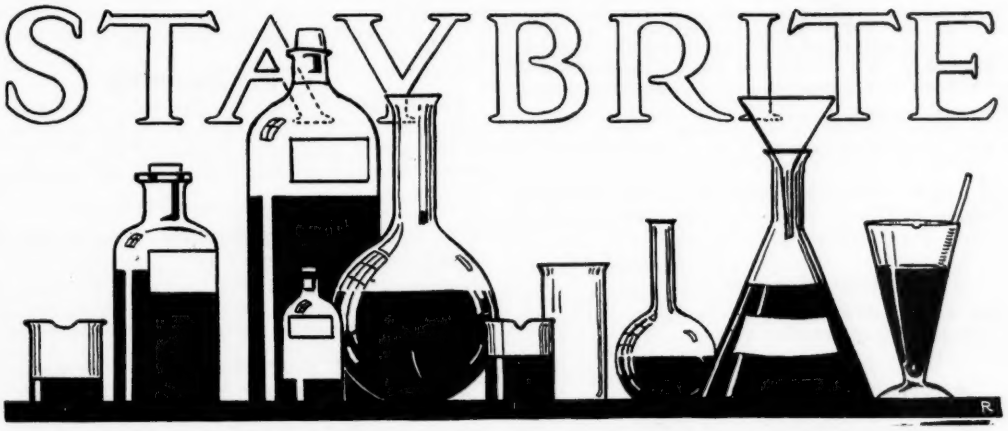
"GLUCANAL BRAND."

468,496. For chemical substances used for agricultural, horicultural, veterinary and sanitary purposes. Class 2. 468,497. For chemical substances prepared for use in medicine and pharmacy, but not including organic arsenic salts, and not including any goods of a like kind to organic arsenic salts. Class 3. H. R. Napp, Ltd., 3 and 4, Clement's Inn, Kingsway, London, W.C.2; wholesale chemists. March 26, 1926. (To be Associated. Section 24.)

96/3/56

FIRTH

STAYBRITE



THE NEW ACID-RESISTING STEEL

The range of the remarkable qualities of FIRTH STAYBRITE will be demonstrated at our Stand (No. 17) in Block "L" at the Chemical Plant Exhibition, London, July 19th—24th.

USERS and manufacturers of Chemical plant throughout the country are heartily endorsing the claims made for this remarkable new acid-resisting steel.

Here is a steel with excellent mechanical properties—steel which is completely immune from the attack of scores of the most corrosive acids (including nitric), alkalies and chemicals, and also quite unaffected by sea water and atmospheric conditions.

The chemical plant maker can readily obtain Staybrite in any of the following forms :—

BARS, RODS, PLATES, SHEETS, TUBES, STRUCTURAL SECTIONS, WIRE, FORGINGS, AND CASTINGS.

May we send you full particulars?

FIRTH "STAYBRITE"

(the new super-rustless and super-malleable steel) has a yield point of about 15 tons per square inch and an elongation of 55% to 70%. This exceptional ductility is combined with maximum corrosion-resisting qualities, which it possesses to a remarkable degree. It may be cold-pressed to a degree far in advance of the so-called "Stainless Iron," and, moreover, it presents no difficulties in manipulation, since it can be welded, soldered, brazed and rivetted without trouble.

THOS. FIRTH & SONS, LIMITED, SHEFFIELD

Commercial Intelligence

The following are taken from printed reports, but we cannot be responsible for any errors that may occur.

County Court Judgments

[*NOTE.—The publication of extracts from the "Registry of County Court Judgments" does not imply inability to pay on the part of the persons named. Many of the judgments may have been settled between the parties or paid. Registered judgments are not necessarily for debts. They may be for damages or otherwise, and the result of bona-fide contested actions. But the Registry makes no distinction of the cases. Judgments are not returned to the Registry if satisfied in the Court books within twenty-one days. When a debtor has made arrangements with his creditors we do not report subsequent County Court judgments against him.*]

ENGLISH CHEMICALS, LTD., Brook House, 10/12, Walbrook, E.C., spirit merchants. (C.C., 17/7/26.) £65 12s. 4d. April 28.

PROPRIETARY AND SUNDRIES CO., LTD., Westfield Works, Portsmouth Road, Surbiton, wholesale druggists. (C.C., 17/7/26.) £13 9s. June 9.

Bill of Sale

BOWKER, Charles William Edward, 15, Stock Orchard Crescent, Holloway, manufacturing chemist. (B.S., 17/7/26.) Filed July 8. £100.

Mortgages and Charges

[*NOTE.—The Companies Consolidation Act of 1908 provides that every Mortgage or Charge, as described therein, shall be registered within 21 days after its creation, otherwise it shall be void against the liquidator and any creditor. The Act also provides that every Company shall, in making its Annual Summary, specify the total amount of debts due from the Company in respect of all Mortgages or Charges. The following Mortgages and Charges have been so registered. In each case the total debt, as specified in the last available Annual Summary, is also given—marked with an *—followed by the date of the Summary, but such total may have been reduced.*]

COWBURN (W. H.) AND COWPAR, LTD. (late W. H. COWBURN, LTD.), Manchester, chemical merchants. (M., 17/7/26.) Registered June 26, £30,000 debentures; general charge. *Nil. April 7, 1926.

DOVEY VALLEY SILICA SYNDICATE, LTD., London, W. (M., 17/7/26.) Registered July 1, £5,000 debentures (filed under sec. 93 (3) of the Companies (Consolidation) Act, 1908), present issue £1,500; general charge. *Nil. December 5, 1924.

EASTERN CHEMICAL CO., LTD., London, E.C. (M., 17/7/26.) Registered June 23, mortgage or charge, to E. D. Sassoon and Co., Ltd., 15, Dougall Road, Ballard Estate, Bombay, securing advances to be made; charged on company's stocks of stores, raw materials, etc., lying at company's works at Matunga, Bombay, and in transit thereto, etc. *Nil. November 4, 1925.

FRENCH CLEANING AND DYEING CO., LTD., London, N. (M., 17/7/26.) Registered July 1, charge, to Bank; charged on Chase Side Dyeing and Cleaning Works, Chelmsford Road, Southgate. *Nil. June 26, 1926.

PHARMACISTS' MUTUAL SUPPLY ASSOCIATION, LTD., Newton Abbot. (M., 17/7/26.) Registered June 30, debenture, to Bank; general charge. *£4,000. January 4, 1926.

TAYLOR'S DRUG CO., LTD., Leeds. (M., 17/7/26.) Registered July 3, £2,400 and £900 mortgages, to Mrs. A. R. Crowther, 6, Street Lane, Roundhay, and another, and Mrs. I. Crawford, 6, St. Mary's Road, Leeds; charged on 40 and 42, High Street, Redcar, and 11, Saville Street, Malton. *£138,567 4s. 6d. November 9, 1925.

Satisfactions

CLARK, NETTLESHIP AND BAILEY, LTD., Leicester, manufacturers of proprietary medicines. (M.S., 17/7/26.) Satisfaction registered June 26, all moneys, etc., registered June 29, 1925.

TIPPER (B. C.) AND SON, LTD., Birmingham, manufacturers of animal medicines. (M.S., 17/7/26.) Satisfaction registered June 29, £500, registered October 27, 1925.

London Gazette, &c.

Companies Winding Up Voluntarily.

LONDON (ENGLAND) LABORATORIES, LTD. (C.W.U.V., 17/7/26.) By Special Resolution, May 31; confirmed, June 28. H. Sweetlove, 12, Gray's Inn Square, London, W.C.1, appointed liquidator.

WATSON (GEORGE, Jr.), LTD. (C.W.U.V., 17/7/26.) James MacGregor Hart, chartered accountant, Glasgow, appointed liquidator, July 2. Meeting of the creditors in the office of J. M. and T. Hart, chartered accountants, 142, St. Vincent Street, Glasgow, on Wednesday, July 21, 1926, at 12 noon.

Receivership

TRIUMPH SOAP CO., LTD. (R., 17/7/26.) A. F. S. Cooper, of Albert Works, Chatsworth Road, Stratford, Essex, was appointed receiver and manager on July 3, 1926, under powers contained in 2nd mortgage debenture dated December 15, 1919.

New Companies Registered

BROWN'S DRYERS, LTD. Registered July 10, 1926, Manufacturers and dealers in machinery, etc., used in heating, drying, impregnating and chemical manufacture. Nom. cap., £2,500 in 1,000 7 per cent. preference shares of £1 and 30,000 ordinary shares of 1s.

VALENTINE VARNISH CO., LTD., Revenue House, 7 and 8, Poultry, London. Registered July 12, 1926. Analytical, industrial and manufacturing chemists, colourmen, dyers; manufacturers of and dealers in varnishes, lacquers, paints, oils, collodion products, etc. Nom. cap., £5,000 in £1 shares.

Columbia University Lectures

AN extensive series of lectures on contemporary developments in chemistry is being given by various American and European authorities, at Columbia University, New York City. The series commenced on July 6, and is being continued on consecutive dates till August 12. Among the lectures are: "Structure of Atoms and Molecules," by Dr. Irving Langmuir (delivered July 12); "The Carbohydrates," by Principal Sir James Irvine, of the University of St. Andrews (delivered July 14 and 15); "Permeability and Electric Phenomena in Membranes," by Professor L. Michaelis, of the University of Berlin; "The Influence of Pressure on Chemical Change," by Professor Ernest Cohen, of the University of Utrecht; "Contact Catalysis," by Professor W. D. Bancroft, of Cornell University; "Theory of Chemical Reaction Velocity," by Professor J. N. Brönsted, of the University of Copenhagen; "Agricultural Chemistry," by Dr. C. A. Browne, Chief of the Bureau of Chemistry, United States Department of Agriculture; and "The Theory of Electrolytes," by Professor P. Debye, of the Technische Hochschule, Zurich.

Pathological Laboratory Gift

THE firm and employees of Christopher Thomas and Brothers, Ltd., soap manufacturers, of Bristol, have presented a new pathological laboratory to the Bristol Royal Infirmary. It was stated at the opening on Monday, July 12, that the money had been obtained from the "C.T.B." works war fund surplus, and with this and some additional subscriptions they had decided to provide the new laboratory for the Infirmary. The laboratory also contains a tablet bearing the inscription, "This laboratory stands as a memorial to those employees of Christopher Thomas Bros., Ltd., who made the supreme sacrifice in the Great War, 1914–1918." Among those present at the opening ceremony were Mr. G. Gray (chairman of directors of Christopher Thomas), Mr. J. F. Fraser (works director), and various members of the firm.

Chemical Workers' Wages

SIR A. STEEL-MAITLAND (House of Commons, July 13), answering Sir F. Wise, said that the approximate percentage increases in time rates of wages for a full week in the chemical trade at April 30, 1926, in comparison with the level of August, 1914, were: Day labourers 115 per cent., and shift (process) labourers 106 per cent., being minimum time rates recognised by the Employers' Federation and the Trade Unions.